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THE UNIVERSITY OF ALBERTA

INTERPRETING GIFTEDNESS

by

MARY EVELYNE SULLIVAN

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

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Daiyo Sawada

Date: Sept. 6, 1989

Dedicated to the
memory of my father,
DR. RUSSELL TAYLOR,
the great teacher
in my life

ABSTRACT

The purpose of this study is to examine notions of giftedness as those notions influence the school experiences of children. To this end the study begins by reviewing definitions of intelligence, creativity and talent since these are concepts important to understanding the definitions of giftedness (Chapter I).

The study investigates the possibility of circumventing a reliance on definition as the foundation of a gifted program. It proposes a shift in focus from the notion of "giftedness" to the notion of "difference," from "gifted children" to the "gifts and talents" of children. By bringing the notion of "difference" into the realm of educational policy making, the study looks at an attempt to create a defensible proposal for extending the gifts and talents of children through a network of services for students and teachers rather than through a segregated gifted program model (Chapter II).

The implementation of such a model (described in Chapter II) was the impetus for examining student needs and assessing the suitability of student programs within the County of Parkland. Chapter III uses interviews and anecdotes to document themes and insights revealed by these investigations. Conversations with children show the

diversity of the gifts in degree and type as well as the diversity of learner needs. Information from this same source shows the critical limitations of numbers, of test results and grades, as indicators of appropriate programming for children. Teacher beliefs about the development of gifts and talents in students directly affect such development as those beliefs limit or enhance the possibilities for students. Chapter IV explores teacher interpretations of giftedness based on observations, conferences and interviews, as well as responses to a survey administered within the County of Parkland.

Using the various perspectives of theorists (Chapter I), policy makers (Chapter II), students (Chapter III) and teachers (Chapter IV), the study attempts to identify significant themes and issues surrounding the nature of giftedness. It puts forward tentative guidelines regarding the encouragement of certain attitudes and services to enhance the gifts and talents of students. It examines the importance of student differences to the notion of giftedness.

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From beginning to end I have been thankful to my husband, Dan Sullivan, and to my children, Shandor, Dusty, Russell and Erin, for their constant encouragement.

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INTRODUCTION

Background to the Study

Four years ago I accepted a half-time position established by our county to investigate alternatives for programming for gifted children. This was a new thrust being addressed by Alberta Education, and school boards throughout the province were scrambling to put something in place which would qualify them for the seed money being granted by the Province to encourage such initiatives. The approach of our board was unique. Rather than use the grant money to implement programming, the County appointed a team of two teachers (1/2 time), whose mandate it was to investigate the whole area of gifted education. I was one of those teachers. Over a two-year period, we were charged with responsibilities in several areas: 1) We were to familiarize ourselves with the research on giftedness through university coursework, through inservice and through professional reading. 2) We were to visit other systems to study programs already in operation. 3) We were to visit our own schools to assess needs and existing services within those schools. 4) We were to experiment with a variety of small initiatives for developing programs. 5) We were to review and purchase materials for a resource centre. 6) We were to prepare a formal presentation for the Board stating our recommendations with regard to implementing programs for gifted children in the County of Parkland.

My investigation of the issues surrounding this whole educational movement has been an exciting and fruitful search which has caused me to reflect more deeply on my own philosophy of teaching and learning. Indeed, being a student in both a structured and in an independent sense these past four years, I have been examining continually the shape, the feel, and the course of my own learning to see how my experience as a learner might inform my study of learning/teaching. My seventeen years of teaching practice is also the inevitable context of my investigations.

Imagining at the beginning of this project that I knew nothing about giftedness (and less than that about teaching gifted children), I went forth in search of the Answers. What was a Gifted Child? How would I be able to identify the Gifted Children within our system? What should be done with them, for them, when we found them? If I had gone no further than the closest jurisdiction with "a program," read no more than the first book, I would have had the Answers. However, having had the space and time and the financial support to continue the investigation beyond the first week, and possessing as I do, a healthy mistrust of easy answers to complex questions, I felt responsible to pursue the matter a greater distance. Besides, this was the first time in my life I had been paid to read, and while it took some small time to adjust to this extraordinary luxury, I did manage.

The longer I searched, the more perplexed I became. Every district, every writer, had a different definition of the Gifted Child. And these various definitions were not necessarily compatible or based on shared assumptions. At a symposium on gifted education, which I attended in Connecticut (Confratute, 1985), thirteen specialists including Renzulli, Kaplan, Williams, Betts and Treffinger, to list some of the more prestigious on that panel, could not agree on a definition of the term "gifted" in the context of the current educational movement. I could, it seemed, choose from a range of carefully articulated definitions and models in the literature and in the field. Or I could do as many consultants had dared and create my own concept of giftedness from some combination or alteration of the existing definitions. I could choose a model such as Renzulli's. He is respected. And I could declare, as some districts did, that "we are 'doing' Renzulli." All the consultants I visited and all the literature I read on implementing programs for the gifted, were agreed on one point: The first step in creating a program was to establish a definition of giftedness which would clearly suggest the criteria for selecting (identifying) gifted children and for developing a program to serve them.

Purpose of the Study

The immediate purpose of the study is to examine interpretive notions of giftedness as these notions influence the school experiences of children. And the more distant purpose is to come to a determination of pedagogic insights and policy principles for curriculum development in the area of gifted education.

The Problem/Question

Problem statement: How can "giftedness" be viewed in a way that is responsive to our pedagogic charge to develop children's potential to the fullest?

Research Questions

The following research questions pursue the problem in separate and subsequent chapters from the perspectives of educational scholarship, policy, students and teachers. These research questions further the investigation of the general problem/question.

1. How are definitions of giftedness useful in directing us to the needs of children and to the means of meeting those needs?

2. How might the practice of school board policy limit or open the notion of giftedness and the possibilities for programming?

3. What might we learn from children about giftedness and about how best we can encourage their positive development?

4. How might teachers' beliefs about giftedness influence the development of children's gifts and talents?

5. What can be seen as pedagogic themes and policy issues in the evolution of educational planning for the gifted?

6. What might be the importance of student differences in programming to enhance student gifts?

Limitations of the Study

The role of parents in the development of children's gifts and talents has not been included in this study. That aspect of a child's education, although critical and inter-related to the development of gifts and talents is another deep and broad subject. It is acknowledged that the effectiveness of educational agencies, their decisions and their programs, are limited or enhanced immensely by the influence of the homelife of the child. Bloom (1985) deals in depth with the role of parents in Developing Talent in Young People.

A further limitation of the study is that the source of interviews, conferences, policy and other information derives solely from my work done in the County of Parkland unless I have stated otherwise. Other non-segregated programs exist and may differ significantly from the one referred to in this study.

Approach of the Study

In order to investigate the problem and research questions posed, a descriptive study was undertaken. Literature on giftedness was reviewed. Information about current policy and programs across several districts was examined. A large number of interviews were conducted with students and with teachers. Teachers and students were also surveyed on a number of questions. Some student programs were followed in detail to document program modifications and results.

The investigator assumes that the significance of various aspects of a child's education will not be evident until many years after the child leaves school. For this reason the study focusses more on the school experience the child describes and on the pedagogical orientation of his or her teachers, what actually happens to and for the student, what the student actually does with his or her time, rather than on product or results in terms of test marks.

The study attempts to identify certain significant themes, clues and perspectives with regard to the enhancement of gifts and talents among children.

The Significance of the Study

The study raises to greater awareness the differences among the gifts and talents of students. It heightens the visibility of teacher attitudes toward the development of children's gifts as differences. The interviews with students and teachers serve to illuminate many aspects of student differences and of teacher response to those differences. The study documents the beginning of a comprehensive program for encouraging the gifts and talents of students. Possibly the most important contribution of the study is that it opens up the whole question of giftedness for re-evaluation. It invites educators to be more tentative and more hopeful about the potential of every student. It encourages teachers to be more creative and more courageous as they shape the learning environment and the learning experience of their children. Many practical strategies for accommodating student differences are also contained in the study and in the appendices.

CHAPTER I

THE DIFFICULTY WITH DEFINITIONS OF GIFTEDNESS

What is giftedness? What does it mean for a child to be gifted? I have circled this beginning again and again to find a place where this complex and shifting matter can be grasped. It is not lack of information that makes beginning difficult. It is rather the mighty weight of thought, of study, and of writing on the topic of giftedness, which inhibits. One's own small thoughts and efforts must, of course, acknowledge that context both drawing and leading from it.

It is dense landscape, this literature of giftedness. A pervasive mist covers myriad pathways criss-crossing one another in a busy network. Giftedness is more than a concept. It's a meta-concept. Maybe even a mega-meta-concept, made up of concepts which are themselves but glimpsed as they continually retreat.

In definitions of giftedness we see the words "intelligence", "creativity" and "talent" to mention only a few of the component concepts. It seems necessary to review these terms before proceeding to definitions which assume an understanding of the notions of intelligence, creativity and talent.

Of these concepts, intelligence is the most critical to the notion of giftedness. Although it is often played down as "one of many factors" used in selection criteria, it is, in fact, the single most influential factor in selection of candidates for gifted programs. Creativity has risen in status as important to giftedness, but the difficulty in measuring this trait (quality? charactistic? ability?) gives it less strength as a factor in identification of gifted children. Talent, on the other hand, may be the most visible of these three aspects of giftedness, but it remains the least acknowledged in identification and programming for gifted children.

My purposes in reviewing these concepts is twofold. First, I want to remind the reader of the complexity of these concepts preparatory to combining them in some way to define giftedness, and secondly, I want to show the relative uselessness of these definitions in the context of making decisions about the schooling of individual children. Having shown the limitations (and perhaps even the possible dangers) of definitions, my study examines how one might go beyond the definitions (or around them) to create a gifted program.

Theories of Intelligence

Conceptions of giftedness arise from the long history of studies of human effectiveness. Many of these studies focus on intelligence. Sternberg (1985) opens his lengthy text, Beyond IQ, with these words: "Intelligence is among the most elusive of concepts" (p.3).

Sternberg divides theories of intelligence into two broad categories: explicit and implicit (pp.3-38). Explicit theories are tested on "data collected from people performing tasks presumed to measure intelligent functioning" (p.3). This category includes both psychometric theories and cognitive theories.

Psychometric theories

Psychometric theories attempt to understand intelligence "in terms of a set of underlying abilities" (Sternberg, 1985, p.4) such as verbal ability, mathematical ability, and reasoning power. The many psychometric theories differ from one another in number of factors and in geometric structure of the factors. As to the number of factors, some theorists have proposed as few as two factors. Indeed Spearman's g was the single factor of psychological interest in his theory (Spearman, 1927). This general factor was understood to influence performance on all intellectual tasks. Thurstone (1938) proposed seven "primary mental abilities." Guilford (1967) claimed there were 120 factors in the structure of the intellect. Psychometric theories differ in the geometric arrangement of the factors. There are hierarchical arrangements such as those proposed by Holzinger (1938), Burt (1940) and Vernon (1971). There are unordered arrangements where all factors are equal and in some sense unrelated, for example, Thurstone (1938). Guilford arranges his factors in a cubic model where content, operation and product intersect in each unit. All of the psychometric theories derive from observed individual differences on mental-test performance and the tasks of those mental-tests are very similar as they evolve from the tradition of Binet (1905) and Simon (1908).

Cognitive theories

The second group of explicit theories are those which Sternberg calls the cognitive theories. Here investigators focus on information processing. Some researchers such as Galton (1883) and Cattell (1890) were interested in speed of intellectual functioning while others have focussed on complex forms of problem-solving. The basic unit for these theories is the dynamic process entity, the component.

Validation of explicit theories

Sternberg discusses the validation of explicit theories. He reminds us that "items for some psychometric tests of intelligence have been chosen primarily on the basis of their correlations with each other or with external criteria (such as grades in school), without reference to an internally validated theory of intelligent performance" (p.17). As for internal validation, Sternberg points out the reliance on some "prespecified definition of intelligence" (p.17). His concern is the "eventual circularity - that one will justify the theory on the basis of the correlations with external criteria, only later to justify the choice of external criteria on the basis of theory" (p.17). In the end, Sternberg suggests that explicit theories of "intelligence" might better be called "theories of laboratory-task or test cognition" (p.29).

Implicit theories of intelligence

What Sternberg refers to as "implicit theories of intelligence" are those based on people's conceptions of what intelligence is. "Implicit theories," says Sternberg, "need to be discovered rather than invented, because they already exist, in some form, in people's heads" (p.31). In 1921, a study of experts' conceptions of intelligence was conducted by the editors of The Journal of Educational Psychology, ("Intelligence and Its Measurement"). Some of those definitions were as follows:

1. The power of good responses from the point of view of truth or fact (E. L. Thorndike).
2. The ability to carry on abstract thinking (L. M. Terman).
3. Ability to adapt oneself to relatively new situations in life (R. Pintner).
4. The capacity for knowledge and knowledge possessed (V. A. Henmon).
5. A biological mechanism by which the effects of a complexity of stimuli are brought together and given a somewhat unified effect in behavior (J. Peterson).
6. The capacity to acquire capacity (H. Woodrow).
7. The capacity to learn or to profit by experience (W. F. Dearborn).

Laypersons' conceptions of intelligence have also been studied and their conceptions have been compared to those of experts. Sternberg (1981) found that laypersons' conceptions of intelligence are remarkably similar to those of experts, however the experts considered motivation to be an important ingredient of "academic" intelligence, whereas no motivational factor emerged in factor analyses of laypersons' ratings. Second, the laypersons seemed to place somewhat greater emphasis on the everyday aspects of intelligence than did the experts (p.34).

Implicit theories take context into account whereas explicit theories ignore it. Implicit theores are much broader in their perspective than the very limited scope of the psychometric view of intelligence, but implicit theories tell us what people think intelligence is, not what it is.

Sternberg's (1985) theory is called The Triarchic Theory of Intelligence, in which he proposes three types of intelligence:

1. Componential - which includes many of the same factors as we find in explicit theories. Those factors are grouped under metacomponents, performance components and knowledge acquisition components.

2. Experiential - under which sub-theory he includes the ability to deal with novelty and ability to automatize processing.

3. Contextual - under which we find the abilities for adaptation, selection and shaping of the environment.

Sternberg's theory has its appeal in that it broadens the definition of intelligence to include creative-productive aspects of human effectiveness as well as what we might label in various contexts "street smarts" or "business acumen."

If one were to study intelligence for a lifetime (and not a few scholars have done that), or if one could pull together objectively the work of all those people, one might still stand, in the end, with Neisser (1979) and agree that:

> There is no such thing as intelligence, any more than there is such a thing as chairness - resemblance is an external fact and not an internal essence. There can be no process-based definition of intelligence, because it is not a unitary quality. It is a resemblance between two individuals, one real and the other prototypical (p.185).

At the very least, one might need to be reminded that we have attempted to separate one aspect of what it means to be human from a concept of humanness possibly already flawed by the supposition that it can be reduced or divided in this particular way (or perhaps in any way). Sternberg, whose reputation has been built on his study of intelligence, reminds his readers that, after all, "Intelligence is a concept we invented in order to provide a useful way of evaluating and, occasionally, ordering people in terms of their performance on tasks and in situations that are valued by the culture..." (p.336).

The fixed or dynamic nature of intelligence

A further consideration with regard to this study concerns the nature of intelligence in terms of its "fixedness." The choices we make in terms of programming for students are influenced by our view of intelligence in this regard. If intelligence is understood to be fixed, then testing and sorting would seem defensible. If, however, intelligence is seen to be dynamic, it would be undemocratic to offer certain opportunities to exclusive populations when any child might benefit at some point from such opportunity. Tracing back to the interest of Francis Galton in the heritability of human intelligence (1883) threads a prevalent belief in the fixed nature of intelligence. Binet, originator of the intelligence test, did not himself hold that notion, but believed that intelligence was educable (1916). His successors however, including Lewis Terman who revised Binet's test at Stanford in 1921, as well as later revisionists and users of the tests did not question the belief in fixed intelligence. Connected to this theory was the assertion of Arnold Gesell (Gesell et al, 1940) that maturation was predetermined and best unfolded without intervention. A permissive climate ensued in which nonstimulation and nonintervention were the bywords. The connection of this developmental theory with that of fixed intelligence came to have significance especially as Gesell's theory was contradicted. Evidence emerged from several studies of children in orphanages which demonstrated that the importance of environmental factors on human development was very great indeed. Children deprived of stimulation, interaction and affection were developmentally far off the norm in physical maturation as well as in achievement and IQ test measurements. Groups removed from these circumstances and placed in environments more stimulating showed marked differences in development (Skeels et al, 1938; Wellman, 1940; Dennis and Najarian, 1957; Dennis, 1960).

Many minds are now bent on re-examining intelligence in the context of environment. Guilford (1956) presented us with a multi-faceted view of intelligence in which he drew attention to creativity and discussed intelligence as educable. Vygotsky (1962) raised the possibility that learning might lead and direct the quality and speed of maturation. Piaget (1936) drew attention to intellectual development during the first few years of life. He claimed that the age at which a child passes from one stage to another depends upon both the genetic endowment and the quality of environment. His was one of the first interactive theories of intelligence. Bloom (1964) found that between birth and four years of age children accomplish fifty percent of the deviation in IQ that they will acquire by the age of eighteen years of age. The constancy of IQ received further blows from the research of Sontag, Baker, and Nelson (1958) and from that of Kagen and Moss (1962) whose longitudinal studies showed consistent change in IQ scores for three hundred children from early development through adulthood. Further support for the interaction theory of intelligence is evident in re-norming of the Stanford-Binet Intelligence Scale. An analysis of the standardization results showed a dramatic rise in the IQ level, especially among the preschool population!

Continuing in the vein of an interactive theory of intelligence, the research on brain function also points to the mutability of intelligence. Teyler (1977) explains:

> The fabric of the brain is set down as a result of the interaction of genetic blueprints and environmental influences. While the basic features of brain organization are present at birth (cell division is essentially complete), the brain experiences tremendous growth in neural processes, synapse formation, and myelin sheath formation, declining around puberty. These processes can be profoundly altered by the organism's environment. Furthermore, it has been shown that brain processes present at birth will degenerate if the environmental stimulation necessary to activate them is withheld. It appears that the genetic contribution provides a framework which, if not used, will disappear, but which is capable of further development given optimal environmental stimulation. (pp.31,32)

Among influences known to facilitate functioning of the cells of the human cortex are novelty (Restak, 1979) and feelings of pleasure and joy (Sagan, 1977). If levels of touch and movement are too low, then this area of the cortex is profoundly affected and may result in an increase in violent behavior (Prescott, 1979). Intelligence, it seems, is neither a unitary concept nor a static one. Rather, intelligence is both multi-faceted and dynamic. It represents, however, only one strand (albeit an important one) of the concept of giftedness.

Acknowledging the dynamic nature of intelligence means accepting our uncertainty as educators about what curriculum is appropriate for any given child. It must give us pause as we allow assumptions about a given child's capabilities and needs. Defining intelligence as dynamic, then, has implications for nurturing intelligence. A look into the complex matter of measuring intelligence reveals further concerns.

Measurement of intelligence

Lack of agreement about the nature of intelligence is only one part of the problem of coming to grips with it in terms of educational decision-making. It seems that according to some theorists current intelligence tests may measure only the ability to take such tests (Sternberg, 1985) and may have only weak correlation to real-life intelligent functioning or real-life achievement. Terman (1921) warned against total reliance upon tests: "We must guard against defining intelligence solely in terms of ability to pass the tests of a given intelligence scale" (p.127). These concerns were raised as well by Thorndike (1921):

> to assume that we have measured some general power which resides in the person being tested and determines his ability in every variety of intellectual task in its entirety is to fly directly in the face of all that is known about the organization of the intellect (p.126).

Sternberg (1985) says,

> to the extent that intelligence comprises somewhat different skills for different people there is no one, wholly appropriate test of it... No one or combination of measurements would yield a definitive IQ, because any one instrument can work only for some of the people some of the time" (p.312).

Of the value of intelligence tests he says,

> applied conservatively and with full respect for all of the available information, tests can be of some use. Misapplied or overused, they are worse than nothing (p.314).

Given that intelligence is both complex and dynamic and given that its measurement has limited reliability, one can foresee the difficulty in identifying giftedness, if intelligence is only one part of that larger concept.

Theories of Creativity

Creativity, like intelligence, is a word we encounter in definitions of giftedness. In fact it seems that as researchers faced the limitations of their theories and tests in the context in real-life intellectual functioning, the spotlight was turned on creativity to provide further enlightenment regarding questions about human effectiveness. Parnes, in the foreword to MacKinnon's (1978) book on creativity says that many consider the years 1950-1975 the first quarter-century devoted to the serious study of creativity. Guilford (1959) highlighted the divergent thinking abilities in his structure of the intellect model of intelligence. Sternberg's (1985) Triarchic Theory of Intelligence has as one of three sub-theories, experiential intelligence, traditionally known as creativity. Sternberg claims that this is the highest form of intelligence.

It refreshes me to read in Clark (1983) that "creativity is a very special condition, attitude, or state of being that nearly defies definition" (p.30). Many have, however, attempted to define it and to measure it and since the word is used often loosely and without qualification in literature on the gifted, I think one must review the efforts of these many researchers. Clark (1983) refers us to Jung's (1964) basic functions: thinking, feeling, sensing, intuiting. She says these functions "unify to become creativity" (p.32). Certainly the four functions are a useful framework on which to hang research and definitions of creativity.

Creativity as a rational thinking function

The view that creativity is a function of rational thinking has generated the most literature and testing. The following definitions explain the position of theorists who view creativity from this angle.

> Torrance (1962): "the process of sensing gaps or disturbing missing elements; forming new hypotheses and communicationg the results, possibly modifying and retesting the results." (p.16)
>
> Parnes (1967): "creativity is a function of knowledge, imagination and evaluation" (p.6). He talks about fact finding, problem finding, idea finding, solution finding and acceptance finding.
>
> Williams (1968): An act of creativity is a conscious act of human intelligence. Operationally, he defines it as including knowledge, mental processes based on cognition, divergent-productive, and associative thinking, evaluative behaviors and communicative skills.
>
> Guilford (1959): "aptitude traits that belong most clearly logically in the area of creativity ... fluency of thinking and flexibility of thinking, as well as originality, sensitivity to problems, redefinition and elaboration ... classifiable in a group of divergent thinking abilities" (p.160).
>
> Taylor (1959): Interested most in scientific creative ability, he discusses five levels of creativity; expressive, productive, inventive, innovative, and emergenative. He views the steps in the process as mental labor, incubation, illumination and deliberate effort.

Tests of creativity as a rational thinking function have not achieved much credibility. Yamamoto (1964) challenges their validity. Limited relationships between measures of divergent thinking and creative performance criteria have been established by research; Torrance, 1969; and by Guilford, 1967. Although capacity for divergent thinking has been shown to be a characteristic of creative persons, caution should be exercised in the use and interpretation of tests designed to measure this capacity. Barron's (1969) study claims that the tests themselves annoy creative persons and do violence to the essence of the creative process (p.37). Thorndike (1963) finds that tests of creativity lack internal consistency and do not seem to test any common characteristics.

Guilford's own tests of creative thinking were not met with much enthusiasm by MacKinnon (1978):

> In recent years Guilford (1959) has worked on the Structure of Intellect through factor analyses, and has identified several dimensions of creative thinking. His identification of divergent thinking and such creative thinking factors as adaptive flexibility, originality, and sensitivity to problems has led to the widespread hope that his tests for creative ability might provide us with reliable means for identifying creative persons. So far, however, this hope has not been realized.
>
> In an intensive study of research scientists in the United States Air Force (Taylor, Smith, Ghiselin and Ellison, 1961) Guilford's tests of creativity failed to predict the criterion. In our own studies, these tests have likewise shown essentially zero correlations with the criterion (P.163).

Creativity as a function of feeling

Theorists who view creativity from a feeling perspective have variously defined it as follows:

> Maslow (1959): "self-actualizing creativeness... sprang directly from the personality, which showed itself widely in ordinary affairs of life and which showed itself not only in great and obvious products but also in many other ways" (p.85). It is "a tendency to do anything creatively...expressive of being quality...rather than its problem-solving or product-making quality...a defining characteristic of essential humanness" (p.94).
>
> Fromm (1959): "creativity is the ability to see (or to be aware) and to respond" (p.44). Fromm views creativity as an attitude for living.
>
> Rogers (1959): "the mainspring of creativity...man's tendency to actualize himself, to become his potentialities" (p.72).
>
> Krishnamurti (1964): "creativeness has its roots in the initiative which comes into being only when there is deep discontent...one must be wholly discontented, not complainingly, but with joy, with gaiety, with love" (pp.47,48).
>
> May (1959): "creativity is the encounter of an intensively conscious human being with his world" (p.68).
>
> Taylor (1976): Trans-actional motivation (the person shapes the environment rather than being shaped by the environment) and environmental stimulation (behavior is initiated toward unpredictable but creative outcomes) combine to form a system he calls creative trans-actualization that is in continuity with self-actualization.

According to this view of creativity, a measure of self-actualization is the criterion for selecting and evaluating creative students. The Personal Orientation Inventory (POI) (Shostrom, 1964) has been developed as such a measure. MacKinnon (1978) who studied the personality aspects of creative individuals claims that, "one of the most valuable nonintellective indicators of creative potential has proved to be a person's concept of himself" (p.167). MacKinnon studied a group of highly creative architects. He notes the Gough Adjective Check List (Gough, 1960; Gough and Heilbrun, 1965; MacKinnon, 1963) as a test which yields such information about a person.

Creativity: the talent aspect

The talent aspect of creativity has to do with product, performance, art form. It has been variously defined as follows:

> Maslow (1959): calls this aspect special talent creativeness; he defines it as a production that results from activity, control and hard work.
>
> Rogers (1959): in recognizing this type of creativity states, "emergence in action of a novel rational product, growing out of the uniqueness of the individual on the one hand and the materials, events, people or circumstances of his life on the other" (p.71).
>
> May (1959): also sees this area when he says, "creativity is bringing something new into birth...the expression of the normal man in the act of actualizing himself...as the representation of the highest degree of emotional health" (p.5).
>
> Simonov (1970): sees the product the artist has created as a "model of the artist's attitude toward a phenomenon. He creates the model with the aim of getting to know, checking and specifying his attitudes" (p.55).

> Rhodes (1961): "the birth of an idea and its embodiment in form recognizable by someone or society as valuable" (p.305).

The criterion for evaluating this type of creativity is the degree to which the product is original, inventive or imaginative. Simonov (1970) sees the criterion as that of social consumption. He believes that the longer a work survives, the closer the creator has come to "perceiving and presenting an essential trust of human existence" (p.77). This type of creativity is also seen as something which can be developed, encouraged, promoted.

In this type of creativity, we see a melding with "talent," even as "intelligence" overlapped "creativity" as that concept broadened.

Creativity as a function of the higher levels of consciousness

Researchers have studied altered states of consciousness as possible areas of information on creativity. They have examined the use of drugs, trances, dreams, meditations and fantasies for clues which might lead to the intuitive, creative spark. Here is yet another view of creativity:

> Anderson (1962): indicates that a creative product is never completely a product of one's rational everyday state of mind.

> Taylor (1963): "there is reason to think that much of the creative process is intuitive in nature and that it entails a work of the mind prior to its arising to the conscious level and certainly also prior to its being in an expressible form. It is most likely preconscious, nonverbal or preverbal and it may involve a large sweeping, scanning, deep diffused, free and powerful action of almost the whole mind" (p.4).

> MacKinnon (1965): gives being more intuitively perceptive as one of the major conditions for creativity (pp. 273-281).

The criterion for evaluation of the higher level of consciousness aspect of creativity is the availability of the preconscious or unconscious state to the person. Krippner (1968) asserts that the ability to operate simultaneously at different levels of consciousness is characteristic of this type of creative person.

Integrative approaches

Clark (1983) raises the point that none of these theories is wrong and yet none is complete. The Blind Men of Hindustan each described correctly the part of the elephant he encountered and their disagreement regarding the nature of the beast centred on their inability to "see" that the elephant was all of those things and more. Clark reminds us of the research of Gowan (1972), of Ferguson (1973), who put forward a holistic view of creativity. Trowbridge (1978) and Harrington (1980) include action, kinesthetic and muscular modes as part of the creative process. And that suggestion perhaps draws us forward into another concept which must be looked at before we can go any further, the concept of talent. In the same way as intelligence overlaps into creativity, it can be seen that in the talent aspect of creativity and indeed in the integrative definition of creativity we are drawn into the concept of talent which is a third significant term in the understanding of giftedness.

Theories of Talent

Talent is understood to be an aspect of human capacity which is different from intelligence and from creativity. And yet to confuse the issue we hear reference to "intellectual talent" and to "creative talent." The term "talent" is inextricably tied to both these other concepts but has its own unique features. Talent usually refers to a demonstrated ability whereas we have seen that in both other realms there is a sense in which intelligence and creativity are discussed as potential capacities as well as demonstrated abilities. Also, talent alone of the three, has always been viewed as something that could be, had to be, developed, if for no other reason than because its expression required certain learning and certain sensory and psychomotor development. Now that intelligence and creativity are being increasingly widely viewed as educable, as dynamic and interactive, the borders between these three aspects of human ability may be blurring. Bloom was responsible for an extensive piece of research in the area of talent. This study was written up in 1985 under the title Developing Talent in Young People. In this text Bloom defines talent as follows:

> By talent we mean an unusually high level of demonstrated ability, achievement, or skill in some special field of study or interest. This is in contrast with earlier definitions which equate talent with natural gifts or aptitudes. We assumed that the development of both excellence and standards of excellence in a society is dependent on the extent to which there are opportunities and encouragement for individuals to find meaning and enjoyment in one or more areas and fields of development. (pp.5,6)

In his study, Bloom designates four distinct talent areas: 1) athletic or psychomotor fields; 2) aesthetic, musical and artistic fields; 3) cognitive or intellectual fields; 4) interpersonal relations fields. All of these aspects of talent are to be found in various definitions of giftedness.

Two statements from Bloom's study are of particular interest with regard to the selection of children for special programming in our schools. The first is an important confession that:

> at this point we know of no method by which one could predict which young children (under the age of ten) would eventually become outstanding musicians, athletes, mathematicians, and so on. (p.6)

The second statement has implications as well for selection of students as it reminds us of the dynamic nature of talent.

> our present findings point to the conclusion that exceptional levels of talent development require certain types of environmental support, special experiences, excellent teaching and appropriate motivational encouragement at each stage of development. No matter what the quality of the initial gifts, each of the individuals we have studied went through many years of special development under the care of attentive parents and the tutelage and supervision of a remarkable series of teachers and coaches. (p.543)

Theories of Giftedness

Recognizing the density and multiple definitions of the concepts of intelligence, creativity and talent which are important to the formulation of a notion of giftedness, prepares one for the controversy, the confusion and the complexity surrounding the concept of giftedness. And even as we begin to examine definitions of giftedness, it is necessary to note that some of these definitions refer to the individual: the gifted child. They give us a definition or a set of descriptors following in the style of the Field Guide to Prairie Game Fowl. Some definitions refer to "gifted behaviors" demonstrated by "certain individuals at certain times under certain circumstances." Others say "gifted" is a term which can only be used historically or at least retrospectively when referring to children. Still others view giftedness as an abstract concept. So let us begin by looking at definitions which intend to designate particular individuals for special treatment in educational terms. The criteria vary in type and degree. Some definitions allow only one type of giftedness, that being IQ as measured by a particular scale. When Lewis Terman (1926) selected candidates for his longitudinal study he used the following definition of giftedness:

> the top 1% level in general intellectual ability as measured by the Stanford-Binet Intelligence Scale or a comparable instrument. (p.43)

This is an example of a highly conservative or restrictive definition by type and degree. Some definitions are broader (one hears the top 3-5% on IQ measurement) and some admit a creativity quotient and achievement scores. Even those definitions that include multiple criteria often fail to measure or address elements other than IQ when it comes to selection of students and selection of materials for programming.

The widely quoted (and copied) definition from the Marland Report (1972) set forth by the U.S. Office of Education is an example of the type of definition which seems to be inclusive.

This report defined gifted children as those capable of high performance, demonstrated achievement and/or potential ability in any of the areas of general intellectual ability, specific academic aptitude, creative and productive thinking, leadership ability, visual and performing arts.

Many districts have adopted this definition or one very like it. In some aspects it refers to performance areas (specific academic achievement, visual arts) and in other aspects it refers to processes that can be brought to bear on performance areas. It treats each aspect as a separate category and some systems carry the error into implementation of programming by saying "this year we'll start with the first priority." Many never get past number one and often despite the seeming broad definition, IQ scores and school achievement remain the strongest or sole means of qualifying for the program.

Unsatisfied with existing definitions which he felt were preoccupied with what he called "schoolhouse giftedness," Renzulli (1978) studied creative/productive giftedness and gave us the Three-Ring conception of giftedness:

> Gifted behavior consists of behaviors that reflect an interaction among three basic clusters of human traits - these clusters being above average general intelligence and/or specific abilities, high levels of task commitment, and high levels of creativity. Individuals capable of developing gifted behavior are those possessing or capable of developing this

> composite set of traits and applying them to an potentially valuable area of human performance. (p.28)

Clark (1983), who has reviewed a formidable compilation of research on giftedness, puts forward a definition of giftedness which shows the influence of recent brain research:

> Giftedness is a biologically rooted concept, a label for a high level of intelligence that results from the advanced and accelerated integration of functions within the brain, including physical sensing, emotions, cognition and intuition. Such advanced and accelerated function may be expressed through abilities such as those involved in cognition, creativity, academic aptitude leadership or the visual and performing arts. Therefore with this definition of intelligence, gifted individuals are those who are performing, or who show promise of performing, at high levels of intelligence. (p.6)

Witty (1958) gives as broad a definition as you could wish for on the liberal and inclusive end of the spectrum:

> There are children whose outstanding potentialities in art, in writing, or in social leadership can be recognized largely by their performance. Hence we have recommended that the definition of giftedness be expanded and that we consider any child gifted whose performance, in a potentially valuable line of human activity, is consistently remarkable (p.62).

A Case for Not Defining Giftedness

A definition of giftedness is a formal and explicit statement which becomes a part of official policies and guidelines. Such a statement is used to direct identification and programming guidelines. The ramifications of such a statement can be crucial and widespread. After two years of study and observation, I could see strong reasons for not creating a definition of the gifted student for adoption by the County of Parkland:

1. because to some extent the criteria would be arbitrary and therefore ultimately indefensible;
2. because instruments purported to measure individual potential for achievement in any of several areas can claim only partial validity;
3. because research shows many aspects of human effectiveness to be highly educable which would indicate that opportunity for development should be universally available;
4. because programming for the enhancement of gifts and talents can be implemented on the basis of needs (of the group or of individuals) without designating individuals as "gifted;"
5. because there may be negative effects among students and staff resulting from such designation;
6. because no hierarchy exists by which we can rank the importance of particular gifts or predict which aspects of human behavior will be valuable and important in the future of humankind.

Human beings are capable of expressing many gifts in varying degrees of intensity or excellence. We know that the actualizaton of potential depends somewhat on the learning environment, on exposure to opportunity, training, expectations, encouragement, modelling and self-concept, to list only a few of the many known variables. Our ability to predict the potential for development of children's gifts is weak and cannot fairly be relied upon as a basis to supply or deny students particular educational options. These are strong reasons to resist the pressure to create criteria for giftedness. Strong reasons to focus on developing climates and services where optimum learning and development can take place. Climates which honor all of the many human gifts.

The following proposal details an attempt to understand giftedness in this whole sense as a framework is proposed for creating a network of services and resources to enhance and encourage the gifts and talents of children in the County of Parkland.

CHAPTER II

AN EXAMPLE OF GIFTEDNESS INTERPRETED THROUGH EDUCATIONAL POLICY MAKING

The "gifted" movement in education is partly a result of research into learning theory in the sense that educators saw too great an emphasis in schools on reproductive learning and on passive learning. Research showed that there was, at best, only very weak correlation between "school smarts" and "real world" success (Renzulli, 1985, pp.26,27). County high schools, following the academic careers of some of their top students found that many of their honor students failed at post-secondary level or dropped out of colleges and universities without completing a degree. A strong focus developed on educating students to increase their critical thinking skills. Skill in communication and divergent production were also brought to the fore-front. The work of Bruner (1960), Williams (1970), Bloom (1956), Taba (1966), to mention only a few educators, began to be examined as the base for creating program models.

After Sputnik there was a great deal of interest in fine-tuning the educational process to ensure that our able students would be up to the challenges posed by the space race. Many models emerged as programs for the "gifted." These program models rose up from the foundation of research on general learning theory. At the same time public awareness of such theory was growing. Segregated programs existed for children with learning disabilities and advocacy groups began to suggest that children who were "different" because of their superior learning abilities were also entitled to special programs. Once "gifted education" came on the horizon a fervor of activity followed in the educational marketplace. All manner of models and materials, conferences and workshops, competed for our educational attention and the educational dollar.

We were told that those children who were in to top 3 to 5 percent of the student population on the basis of IQ represented the gifted and these were the proposed candidates for segregated gifted programs. In many districts these children were removed from regular classes for two or three periods a week to take part in special programs. What took place in these programs varied from school to school and from district to district. Logic games were big. Creativity training was in. But so were handicrafts, computers and field trips. The abuses here were often great. And even where they were not, the programs were for the most part indefensible.

Identification of Students

Students were selected for admittance to programs chiefly on the strength of IQ and/or school achievement. Since IQ measures only a very limited range of mental functioning and that being of an analytical nature rather than of a generative, divergent or creative nature, these instruments identified only students with componential, analytical abilities and relatively large stores of general knowledge. School achievement correlates highly with IQ since school tasks are largely reproductive and analytical in character. So the back-up measure of school achievement usually confirmed candidates for selection rather than uncovered new candidates. Systems which boasted a multi-faceted identification matrix often added a parent, teacher, and peer rating to the IQ and achievement measures. For the most part these ratings also relied upon the student's achievement record since for most of us "smart" means "smart in school."

The work of many researchers including Torrance (1979), Renzulli (1985), MacKinnon (1978), Guilford (1967) and Sternberg (1985) has shown that the divergent/creative capacity of intellectual functioning seems to be at the root of genius. Insight, the ability to see new connections and combinations, has been of singular importance in the development of new theories. Perseverance and the ability to defer judgment have proven as important as ability to think quickly. However, most tests reward the quick thinker and the one correct answer rather than the real-life ability of seeing many perspectives and more than one possible solution. Ironically, many of the students selected for gifted programs were those for whom the regular curriculum was most appropriate. These students were often less comfortable with situations which required them to seek their own solutions, rely on their own judgment and generate original material.

Students Not Selected

Students of above-average IQ whose achievement was unremarkable rarely made the cut-off scores and these students seldom found their way into gifted programs. This very group includes the students with the greatest creative potential. These are also often the students most in need of alternate programming since the regular curriculum with its emphasis on reproductive learning does not challenge these individuals nor does it reinforce or validate the talents these young people exhibit. Their lack of engagement with the repetitive aspects of curriculum and with the consumer orientation of schoolwork sometimes leads them into patterns of inattentiveness and of inappropriate behavior which negatively affects their achievement and their attitudes toward learning.

As part of some coursework I did on the study of giftedness, a professor had us select candidates for a gifted program from a list of recommended students. We were given IQ scores, achievement data, creativity quotient, social quotient, developmental and family history. Only one third of the recommended students could be selected. After a great deal of discussion and argument, each group presented their candidates. These were the students whose IQ scores and achievement records were significantly higher than other students. Once the choices of all groups had been announced, the professor told us that the "students" were actual people. It turned out that we had rejected Albert Einstein, Eleanor Roosevelt, Thomas Edison, Abraham Lincoln, Winston Churchill, Isadora Duncan and Werner Von Braun. The people we had selected were also real people, but none of their names were known to us. The people we selected were so far above the others in evident ability according to the criteria used that the strongest advocates would not have been able to effect a decision in their favor. This was for me a sobering and critical experience as I contemplated the whole question of policy-making with regard to educational offerings for "the gifted."

An ethical concern regarding the chosen and the unchosen was at least two-fold.

1. Given that our understanding of intelligence is limited and our current capacity to measure it so questionable, can we know with such surety who will benefit from an proposed "different" educational opportunity? and

2. Given that research into intelligence, creativity and talent indicate that all of these are modifiable through education, do we have the right to deny any educational opportunity to children on the basis of their level of current performance?

Programming for the Gifted

Segregated thinking programs

A further important consideration is the program itself. Segregating thinking skills from regular coursework has its evident drawbacks.

Gifted programs, if they were good programs, had a heightened focus on critical thinking skills. They allowed students to "produce" rather than "consume" information. They did this out of the context of the curriculum for the most part because they were taught by "the gifted teacher," who was distinguishable from the regular classroom (ungifted) teacher. Rarely was there meaningful communication between these individuals. In fact, in some programs the gifted teacher worked with students from many different schools. In almost every segregated program I saw there was at best little communication and at worst actual animosity on the part of the classroom teacher who saw her offerings as less valuable and less important that those of the gifted teacher. Whatever the relationship between these professionals, there were other aspects of segregated programs that made them indefensible in my estimation.

If a student needs to learn how to think and problem solve critically and creatively, he needs to do that every day, every period of every day, and he needs to do it in the context of every subject. Segregated programs gave the impression that there was a subject called "thinking" and that twice a week for eighty minutes one should learn about and practice thinking. Back in social studies there was no need to do things any differently than before. Using kits and games and generally novel material, students played at thinking a couple of times a week while the remainder of the school week stayed the same.

A common program for unique individuals

A fundamental irony of the segregated program was the notion that "a program," one common program, would be appropriate for the many diverse students selected. Typically such a group would contain some individuals of high general intelligence and strong leadership aptitude, a few budding writers who also thrived on any manner of word game, an equal number of math whizzes who detested writing, and an assortment of "smart" kids who really had no passion for any subject apart from whatever interest it required to maintain a 97 percent average. What these children might have in common in terms of educational needs would be hard to calculate, probably impossible to deliver to them as a group.

Teachers of the gifted

Any program needs facilitators. Many districts asked schools to institute gifted programs, without ensuring appropriate staff development and training. In some of these schools the time allocated for gifted education was in reality filled by coursework on computers, music, French or art. What the policymakers decide upon for programming must be feasible to deliver with the resources available. Where this match does not exist, programs are bound to fall short of expectations.

In some districts I visited, there was real frustration with regard to gifted programs. Some teachers were seeing their best students taken from class to attend segregated programs. Others were being asked to make special provisions for these students without any additional training or support in terms of material resources and time.

All of these considerations were among my concerns as I studied the notion of giftedness in terms of formulating County policy.

The Political Reality of Gifted Programs

The Minister of Education commissioned a task force to investigate the education of gifted and talented pupils. The report, entitled Educating Gifted and Talented Pupils in Alberta (Alberta Education, 1983) contains conclusions and recommendations.

The Management and Finance Plan (MFP), proposed by Alberta Education for the 1984-85 school year, introduces for the first time in the province a mandate to direct specific funds for the education of gifted and talented students. For this school system the formula specifies five (5) percent of the Special Education Block Fund. In addition, MFP regulations are directing school jurisdictions to develop policies, guidelines and procedures governing the provision of educational services for gifted and talented students. Further, grants would be made available to school jurisdictions to support them in formulating policy and in implementing programming.

My own county was spending the grant money to finance my study of the issues involved, and my work in formulating recommendations regarding future programming. It was my hope that I could convince the Board to implement a broad-based network of services that would enrich the educational experience of many children. This, I knew, to be a fuzzy concept against the exclusive, highly visible, administratively "clean" models of the segregated type which had already been embraced by the larger and neighboring boards. At the same time, my research and my observations as I visited many existing programs, permitted me no other ethical route. I knew that my own work in the area was tied to a philosophical base which supported the potential development of the gifts and talents of all Parkland children. The document which follows was my attempt to convince them that an inclusive programming model could be implemented to meet the needs of exceptional children.

Proposal for Extending the Gifts and Talents of Students in the County of Parkland #31

INTRODUCTION

> Alberta Education supports the provision of educational programs for exceptional students who have special needs, whether the students are gifted, talented, or educationally disabled.
> (Program Policy Manual, Alberta Education, 1984)

The Board of the County of Parkland acknowledges and respects the individual differences which exist in students. Thus, our education system ideally should provide learning opportunities and a learning atmosphere in which each student is encouraged to develop to the optimum level of his potential. (County of Parkland Policy Handbook)

The Board of Education of the County of Parkland No.31, believing that each human being has the desire to learn, to develop, and to aspire to greater knowledge, is committed to fostering schools with learning environments which promote excellence. Students eligible to attend public schools will be provided learning experiences designed to develop academic, social and physical skills consistent with community expectations and with those enunciated by Alberta Education.

Each student will be given the opportunity to be taught by teachers who strive to employ teaching practices which recognize individual needs. (County of Parkland Statement of Mission)

TABLE 1
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.1)

Perspectives on the Proposal

The title itself proved controversial. Local groups advocating the rights of gifted children wanted the proposal to be for "educating gifted children in the County of Parkland." I thought it critical to the reception and implementation of the project that it remain clear that it was gifts and talents we were interested in rather than "gifted children." As soon as you identify a program as being for certain clientele, then you are forced to describe and select those clientele for whom the program is intended. If the program instead is aimed at the development of gifts and talents, then funds can legitimately be spent on teacher education and on services, and on resources which may be available to many students. The central office administrators, appreciating the significance of the document title, were firm in resisting pressure to alter it. This is an example itself of the ways in which policy making creates and shapes understanding, in this case of the concept of giftedness.

> Focus on the needs of exceptional students has already resulted in benefits for children, for educators and for society at large. Parental advocacy has given impetus to heightened interest in the research on human intelligence and creativity. Teacher training, curriculum theory and educational practice are influenced by such research, and its findings have direct relevance to this project. Acknowledgement of the needs created by exceptionalities is the foundation of this proposal to mobilize a resource network to meet these needs.

TABLE 2
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.2)

This Board's interest in education for the gifted has at least a seven year history. The 1980 task-force committee investigated needs in this area and carried out a pilot project in three schools from September of 1981 to June of 1983.

When the government introduced a mandate to direct specific funds for the education of gifted and talented students for the 1984-85 school year, our Board launched a 2-1/2-year project based on the secondment of two teachers to be exclusively concerned with this issue.

These teachers were developed as consultants through university coursework, conferences and personal study. They visited many jurisdictions in Canada and the United States to become familiar with existing models of gifted education in their practical application. The teachers also looked within the system to assess needs and identify strategies already operating to meet these needs. A variety of experimental projects were carried out in County schools and some inservice was offered.

Over the 2-1/2-year period of the project, a distinct orientation emerged from review of research, observation of practice, and reflection upon the findings from both of these sources. The summation of the project is represented by the philosophical statement of this proposal and its subsequent practical recommendations.

TABLE 3
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.2)

The decision of the Board to provide for the education of designated staff in the area of gifted education before creating a County program was a unique approach among Alberta school districts. Most systems committed themselves to a type of program (in most cases segregated and in many cases a distinct model of a segregated program) before hiring staff to implement that program. Educators I met as I visited other districts and attended conferences were amazed to hear that my job was to research gifted education in order to make recommendations to our Board.

Looking into the needs and services of our own county also proved extremely fruitful. I was able to learn from the many excellent services and strategies I saw operating in many classrooms and schools throughout our system. I was able to get a sense of what teachers thought about giftedness. I was able to reflect on their attitudes, their concerns and their needs as they faced this new thrust in education.

My watching and listening, my asking told them that their work, their knowledge and their opinions would inform the position of the County and the direction taken. Once decisions were made and implementation was mandated by the Board, a foundation of good will and cooperation was in place. As well, a heightened awareness of the diverse needs of learners which resulted from these discussion, motivated teachers to tackle the challenge of meeting those needs.

Rationale

The rationale for the two-fold thrust of the proposal is rooted in the following five principles distilled from the literature and from the observations and experiences of the committee members.

1. "Giftedness," being an abstract concept, does not submit to empirical measurement, whereas many particular gifts and talents can be identified.
2. Recent research on multiple intelligences refutes the validity of IQ scores and achievement tests as comprehensive measures of intellectual capacity.
3. Characteristics of intelligence and creativity are dynamic rather than "fixed" capacities.
4. Gifts and talents are extremely diverse and could not be enhanced through delivery of a single common program.
5. No hierarchy exists which can, in the face of tomorrow's challenge, assign relative value to the many gifts and talents which make up the bright spectrum of human potental.

TABLE 4
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.3)

The first principle freed us from the identification of children and allowed us to focus instead on identifying needs.

For example:

This student worked quickly and his spare time needed to be used productively.

This student grasped concepts quickly and required less practice.

This student was unmotivated and seldom completed work.

This student had problems with written work and was experiencing frustration showing what she knew.

This student had a strong interest and ability in creative writing and needed opportunities to write for authentic audiences.

The second and third principles justified training in critical and creative thinking for all members of a class. Such training was often diagnostic, in that it allowed us to see creative and intellectual abilities in children who had not shown such characteristics in their everyday work.

In teacher inservice, we reminded teachers of the many great men and women who were unremarkable in the early years of their education. We gave teachers a list of these gifted individuals who were not recognized by their teachers as "most likely to" do anything in particular. This list included Einstein, Beethoven, Edison, Lincoln and Pasteur. This emphasis helped teachers to focus on cultivating whatever strength or interest they saw in students, accepting that their potential is for the most part hidden from us. As teachers expected children to surprise them, they did.

The fourth principle allowed for the diversity among teachers and among schools. Recognition of the fact that needs could be met through a great variety of strategies and services validated every effort to accommodate student differences. Clubs and mentorships, special projects, subject acceleration, cross-graded activities, leadership opportunities and computer coursework all found their places as part of the network.

The last principle justified special consideration for the student on the provincial ski team as well as for the child involved with the peer counselling group. The young artist might be excused to attend an art workshop as readily as the expert speller was excused from work he had accomplished.

Perspectives on Definition

At least as many definitions of "gifted children" exist as do school jurisdictions to serve them. Thirteen experts, including Renzulli, Kaplan, Williams, Betts and Treffinger among other prestigious participants in the Connecticut symposium (Confratute 1985) could not agree on a definition of "gifted" in its educational content. Renzulli speaks, not of gifted individuals, but of gifted behaviors displayed by certain people at certain times in certain circumstances. Giftedness, he claims, is a response rather than a characteristic. Treffinger says the "gifted child" is an historical or retrospective designation since most individuals are recognized as gifted on the basis of contributions and achievements in their adult lives. According to Calvin Taylor's talent totems, as much as sixty percent of the student population can be classified as gifted. Clearly, no one denies the existence of specific exceptionalities among students. Yet these distinctions regarding the use, and perhaps misuse, of the term "gifted" have critical implications for educators as they are confronted by these issues.

Students in the County Parkland possess an abundance of gifts and talents. There are students whose general proficiency in processing and manipulating information is outstanding. There are students who have a superior capacity to produce ideas fluently and divergently or there are students whose knowledge is advanced or whose skills are exceptional in one particular domain such as mathematics or language arts. These gifts exist in varying degrees of intensity and visibility throughout the student population. This observation has fundamental importance to our proposal. The absolute classification of children as "gifted" or "non-gifted" is indefensible. Neither is it appropriate or useful to our purpose as educators to establish such a classification. It is possible, however, to identify particular gifts and talents which are evident in certain students, and it is also possible to promote the emergence and development of hidden and potential gifts and talents which exist in the general student population.

TABLE 5
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.4)

Despite research to the contrary teachers and the general public continue to equate school achievement with giftedness.

A child whose marks are mediocre but who spends countless hours of his own time studying electronics and experimenting with electronic gadgetry is more likely to be gifted than an honors student whose main interest is in being an honors student. Oftentimes as educators we are not aware of the consuming interests of our students. Torrance tells us to protect the passions of children and he advises individuals not to "waste energy trying to be well-rounded."[1]

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[1] This advice is expressed in the "Manifesto for Children" by E. Paul Torrance and appears in Educating Our Gifted and Talented Students in Alberta, a resource manual produced by Alberta Education in September, 1986 and edited by Dr. G. Millar.

Two-Fold Thrust

Acknowledging the complexity of the concept of "giftedness," the committee proposes a two-fold thrust in response to:

- I. **specific** student needs
- II. **general** student needs

Component I recommends a strong commitment to serve the needs and nurture the development of students with **evident** gifts and talents.

Component II recommends a broad commitment to heightened awareness and continued encouragement of **hidden** and **potential** gifts in the general student population.

TABLE 6
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.5)

Component I addresses the visible strengths of students and the needs which may exist because of those strengths.

Component II recommends that opportunities be created by classroom teachers for students to have choices, for students to be exposed to forms of enrichment, for students to have some autonomy.

IDENTIFICATION OF NEEDS

Specific Needs:

The first component of the proposal's double thrust, refers to students with evident gifts or talents. Parents, teachers and students themselves are the most reliable and practical sources of identification of these students' needs. Treffinger referred in a lecture (Lacombe, Alberta, 1986) to an identification of "those cases and places where we need to be doing things differently."

Students with evident gifts and talents often need differentiated programming. Advanced content, accelerated pace and variation of teaching/learning mode are some components which may require modification. Individual needs can be addressed through a variety of strategies from cluster groups, to independent projects and course compacting. Many techniques and materials are available to help ensure that students are challenged and extended by their school experience.

General Needs:

The second component of the proposal's double thrust refers to the identification of those aspects of learning which will promote the emergence, enhancement and extension of gifts and talents from among the total school population.

Enrichment is often a condition necessary to the expression of gifted behavior. Critical thinking, problem solving, decision making and training in creativity belong in the context of classroom and are now finding their way into mainstream curriculum. A need exists for inservice and support in the development of strong classroom-based and school-based enrichment.

TABLE 7
Excerpt: Proposal for Extending the Gifts and Talents of Students in the County of Parkland (p.6)

IMPLEMENTATION

> Gifted programming is not just "a program;" it is the sum of all the services that are provided to meet the needs of our students."
> Treffinger (1986) (p.49)

Introduction

This proposal's comprehensive philosophy of giftedness indicates a response which is both immediate and long-range; a response which is, at the same time, specific as well as broad-based.

The needs of students referred to in Component I must be responded to individually at the earliest opportunity. The needs for inservice of staff and for general enrichment referred to in Component II, will be met only over a period of years.

Such ambitious commitment will require support from three distinct resource levels:

1. the County
2. the school/community
3. the classroom

TABLE 8
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.7)

1. The County should provide adequate human resources to promote the double thrusts of the proposal:

   - by providing consultative service to facilitate, in concert with teachers, parents and students, educational planning for particular students with needs arising from their evident gifts (component I).

   - by providing leadership in articulating a comprehensive inservice plan for teachers and principals which would support a commitment to general enrichment (component II).

TABLE 9
Excerpt: Proposal for Extending Gifts and Talents of County of Parkland Students (p.8)

2. The County should provide material resources:

   - appropriate books and kits should be available for viewing, for use in inservice, and for loan to schools in support of emerging programs.

   - opportunities should be created for subject specialists to locally develop materials for teacher use.

   - consultants should continue to develop materials such as the portable learning centres now available through the County resource centre.

3. The County should provide system-wide enrichment services:

   - the geography of the County imposes isolation on some school populations. This may mean, particularly in small schools, that children with exceptional gifts and talent lack peers who share these. Small numbers and great distances also make it impractical for field trips or presentors to fill needs of such students. In recognition of the difficulties involved in serving exceptional needs in rural areas, our proposal recommends enrichment services be extended to students and teachers from all parts of the County. (The Facets Writers' Workshop would be an example of such a service.)

   - County-wide contests encourage excellence and serve as a showcase of talents and gifts of our students.

TABLE 10

Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.8)

RESPONSIBILITIES AT THE SCHOOL/COMMUNITY LEVEL

1. The school should facilitate a heightened awareness of particular student needs and involve appropriate resource personnel to assist in meeting such needs.

2. The school should ensure that the progress of students following an individualized educational plan is continually monitored, especially through change of grade or school.

3. The school should assess its current program offerings. A program search or needs assessment by staff would prevent duplication of services and would show areas of weakness in the network of services provided.

4. The school should, with the aid of a consultant, develop a network of enrichment services for students. Here, cooperation and flexibility will free time and talent from staff resources to connect with the needs of the students.

5. The school should, in consultation with parents and with County personnel, continually review progress in meeting student needs.

6. The school should participate in County inservice to increase awareness of exceptional needs, and in training sessions pertaining to the use of particular strategies such as learning centres, team teaching, acceleration, creative problem solving, critical thinking and independent projects.

TABLE 11
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.9)

Responsibilities at the CLASSROOM LEVEL

The insurance that programs for the gifted will make a difference for kids lies with the teacher. The teacher is still the most important element in education.

1. Teachers should recognize the importance of their impact on this project.
2. Teachers should become informed of the characteristics and behavioral clues which may help to identify students who have special needs.
3. Teachers should see parents as valuable resources in identifying and meeting some of their child's unique needs.
4. Teachers should be flexible in their attitude to program modification for exceptional students.
5. Teachers should avail themselves of opportunities to become acquainted with techniques for using questioning, critical thinking and creative problem solving activities to allow all students opportunities for using higher level thinking skills.
6. Teachers should take an active role in the evaluation of programming, in helping students with self-evaluation, and in assessing parental response to the student's program.

TABLE 12
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.10)

SUMMARY OF CONSIDERATIONS

1. Exceptionalities create the need for differentiated curriculum which presents continued challenge for particular students.

2. Needs of exceptional students are more readily identified by parents, by teachers, and by students themselves than by reliance on extensive testing.

3. Current resources are inadequate to further address these needs without the support of additional staff and inservice.

4. An inclusive rather than exclusive approach to providing services follows from a recognition of the complexity of the concept of "giftedness" and of our desire to make what may be significant educational services available to any student in our system.

TABLE 13

Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.11)

RECOMMENDATIONS

Based on this proposal, which sets forth principles, needs and a plan for implementation, the following recommendations are presented:

1. The Board of Education should assign staff to fulfill County level responsibilites.

   A full-time program specialist for each of Areas 1 and 2, whose responsibilities would involve a half-time commitment to educational planning for the particular students referred to in Component I of this proposal, and a half-time commitment to serve the general enrichment needs implied by Component II of this proposal.

2. The Board of Education should assign funds for extensive inservice of teachers and principals.

   In the long term, support of this recommendation will determine the success of the project.

3. The Board of Education should assign funds for materials and clerical staff to extend the services of the Resource Centre in support of this project.

4. The Board of Education should assign funds to continue and extend County-wide enrichment services to students.

TABLE 14
Excerpt: Proposal for Extending Gifts and Talents of Students in the County of Parkland (p.12)

Conclusion

The Board accepted this proposal. Their decision meant that the County could avoid the large expenditures required to fuel "identification procedures." The budget allocation for gifted and talented could be spent directly on creating services and resources for students and teachers, rather than on proving who was gifted.

This Board decision pressed staff into genuine cooperative study of needs and services. We met as teachers to articulate common needs arising from differences among students. We shared and compiled and created strategies for accommodating student differences. Teachers suggested to program facilitators (of which I was one) ways in which the facilitators could provide services to enhance (directly or indirectly) the gifts and talents of students.

Out of these activities grew the role description of the facilitators. Teachers asked me to assess and interview students. They gave me the names of students about whom they had particular concerns. These interviews (Chapter 3) became yet another source of information and understanding in terms of children's school experience and development.

Teachers wanted inservice opportunities to learn more about the differences manifested by their students, to share and discuss strategies for dealing with those differences in meaningful ways. Teachers wanted help in the form of materials, mentors and out-of-class enrichment opportunities for their students. They wanted leadership opportunities for students and sometimes they simply wanted assurance that what they were doing was, in the eyes of a colleague, "the right thing."

The choice, by the Board, of an open-ended, comprehensive approach to giftedness served to reaffirm the responsibilities we have always had as teachers toward all our students. The Board's decision justified and encouraged a move away from standardization of materials and methods. It supported a climate allowing the learner a greater degree of choice and responsibility.

A policy which identifies certain students as gifted meets with a different response. People see the needs of those students as being met by a designated person or program. The need to have students using higher-level thinking skills in social studies is, then, for example, not as urgent. The need for Kody to do something at his own pace or level in language arts can be overlooked since he is "in the gifted program" on Tuesday and Thursday afternoons.

But one of the crucial aspects of a segregated program is that is that it standardizes the curriculum. Again. The student may be exposed to a richer and faster-paced curriculum, but it is the same for all the students. This is for some students an improvement over regular classroom work, but for other students it only means more pressure and not necessarily any opportunity to follow their interests in terms of content or skill development.

The direction our county took in terms of gifted education forced us to look at individual students and to assess their program needs. This policy often brought parents, teachers, consultants and students themselves into consultation about the child's program. We found that the child himself or herself was often able to show us how to intervene to make his or her school experience a richer one. The following Chapter (III) reconstructs some student conferences and attempts to discern common threads which connect them.

Chapter III

INTERPRETING GIFTEDNESS BY LOOKING AT CHILDREN

Every child displays some of the characteristics on a list describing "gifted children." No child displays them all. And many gifted adults were not seen to possess the "characteristics of giftedness" as children. Behavior fueled by curiosity was (and is) often seen as "disruptive" or "antisocial." Being a "loner" may have little to do with intelligence where one child is concerned but may indeed have bearing in the case of another. This is true of restlessness, boredom, aversion to drill, persistence and lack of it. It bothers me when lecturers make statements such as "Gifted children sometimes lack self-esteem." Yes. And does that really tell us anything important when it is true of average achievers and learning disabled children and children who do poorly in school? I have found this focus on general characteeristics of children less than helpful. It blurs our vision as we look at one child. What refreshes, and re-focusses us is a meeting with a real child. And while many, many meetings with real children can help us to see the threads which perhaps have significance in the success and failure of children to learn, I believe we must resist a classification of children as gifted and non-gifted.

Looking at children in the learning environment, talking to children about what and how they learn, attending to their successes and their frustration can tell us a great deal about how gifts and talents unfold and develop.

As a programs facilitator, part of my role is to meet with children and attempt to assess the suitability of the classroom program in meeting their individual needs.

This process affords me the opportunity to meet with students from grades one to twelve and to discuss with them their perceptions of their own learning situation. What an exciting and enlightening pursuit this has proved to be. In the process I have come to examine the notions I hold about learning and to recognize misconceptions perhaps shared by some of my colleagues. The single greatest discovery for me has been the confrontation of the myriad faces of The Learner. The myriad facets of The Learning.

Nicholas, Chris and Andrea: What Three Students Taught Me

These were three very able math students in grade two. The teacher was concerned that they were perhaps not challenged, not using their time to advantage. She asked me to interview the students and make recommendations regarding modifications to their programs.

Nicholas

"What's your favorite subject, Nicholas?"

"Math, I guess."

"Why do you like math best?"

"Well, I like to figure things out. I don't know, I just like it."

"Why did you hesitate a little about it being your favorite?"

"Well, I like it but sometimes I get bored. It's too easy." (He looks down and fidgets.)

"Would you like to do harder math?"

His head jerks up. "You mean like times and divide? You mean like 23 + 59? I know how to do that. My brother showed me. Yeah, I'd really like that," he says leaning forward. "I did some stuff in the back of the math book. It was fun."

Chris

"What's your favorite subject or school activity," I ask Chris.

"Math. I love it!"

"Why do you enjoy math so much?"

"It's easy."

"Is that why you like it?"

"Yeah. I'm always the first one finished."

"What do you like best about it, Chris?"

"DRILL!" (This with a flash of beaver teeth.)

"Are you good at it?"

"Oh yeah. I always get a hundred percent."

"Would you like to do harder math." (pause)

"No, I don't think so.." (then in a rush) "But I'd like to do MORE!"

Andrea

"Andrea, what's your favorite school subject or activity?"

"Well it certainly isn't math! I hate math." (Andrea answers in the negative which surprises me since most children respond immediately to the lead into their favorite subject.)

"Do you find math difficult, Andrea?"

"No, it's EASY. I always get a hundred percent."

"Would you like to do harder math ... or more math?"

"No, I would like to write stories. I love making up stories. Last night I made up a story about a

> dinosaur, you know some people draw dinosaurs with great, big teeth, but most dinosaurs didn't have teeth, at least not big, sharp ones because they were vegetarians like brontosaurus, but some were carnivorous, that means they ate meat... anyway my story was about stegosaurus. I might be a paleontologist when I grow up, or an author."

Some able math students are bored with repetitious work and may even make mistakes at levels of competence because of their inattention. These students may prefer to work at a level of difficulty where they are challenged.

Some able math students enjoy working at tasks in which they are fully competent and in which they can achieve predictably excellent results. These students may enjoy competing with themselves to increase their speed of computation.

Some able math students don't really enjoy math at all. These students, once they have met the requirements of the lessons, may enjoy using extra time to pursue a reading, writing or art project.

Nicholas, Chris and Andrea helped me realize that I had been operating under at least two incorrect assumptions:

First, that all able math students really liked math; and second, that all able math students would like to do harder math.

Standard Achievement Masks Critical Differences

Looking only at primary school children who excel in math we find so many differences among their attitudes toward math. Some like it because it's easy. Some hate it because it's easy. Some like problem-solving and others like drill. Some want to be timed and like the challenge of cutting the time down more and more. Some hate being timed. Some want to help others with math. Some prefer to work in groups. Others want to work alone. Some want to make up the questions. Some want to go ahead to more difficult work. Others want to do more of what they have already mastered. Still others want to do only what is required and move on to their real interest.

It's possible that this group of students who do well in math include some future accountants who enjoy the precision and predictability of numbers. It likely includes some individuals who have aptitude for theoretical mathematics and divergent thinking. No doubt some of the children who are able in mathematics have little genuine orientation toward math but find it easy.

Other children in the group may be strongly achievement-oriented and simply see to it that they do well. And what of the children who do not do well in primary school math? Isn't it possible that difficulty learning number facts (the primary school focus) leads some students to dislike math and to believe that they can't do math, whereas upper elementary math moves to problem-solving and the junior high focus is theoretical mathematics, both of which require different strengths and aptitudes? Isn't it also possible that future mathematicians among the under-achievers have impediments to school success which are of emotional, social, behavioral, or motivational origin? The potential gifts of these individuals cannot be discounted on the basis that their gifts are not yet evident.

No single program, no single option will serve to enhance the gifts and talents of these many individuals. Certain non-negotiable elements of curricula should expose them to a broad scope of possibility in content, in style, in process and in product. Certain choices should allow them to extend themselves in areas of strength through repetition or through exploration as their natures lead them. Student assessments such as the ones described in this chapter are some of those important encounters with learners which inform my thinking on educating to extend the gifts and talents of children.

Marks Tell only Part of the Story:

Brian

I visited Brian at the rural school where I had once taught. He knew me as a former junior high teacher and as a member of the community. I remembered a story told to me by the old woman who lived across the street from Brian when he was four years old. Brian periodically phoned the old woman, Angeline was her name, just to chat. One day in the middle of such a chat, Brian said excitedly, "Emergency! Emergency! I've got to go!" He hung up the phone and left Angeline worrying about the nature of the emergency. Angeline made her way over to Brian's house, where Brian's mother answered the door. No, there was nothing wrong. Brian was watching TV. Emergency? No. Wait. "Brian, why did you tell Angeline there was an emergency here?" "EMERGENCY, Mom. My program. If I'm going to be a paramedic, I have to watch 'Emergency' and learn about resuscitation and all that stuff!"

I knew Brian was a bright kid and luckily so did his junior high teacher, who had called me in. Mrs. Rimmer had had Brian as a student in grade three and had him now as a grade-eight student. She was perplexed by what she saw. Brian, who had been an articulate and highly engaged student as a youngster was now an apathetic scholar and real behavior problem. Although she still saw sparks of the bright child, Brian's performance was far from satisfactory. He rarely completed work. His marks reflected that, and were in the fifties and sixties. Worse that that, Brian had been suspended twice for rude or inappropriate behavior. Mrs. Rimmer felt that this lad was headed out of school either through dropping out or being expelled.

When I met with Brian, we discussed his poor achievement record. Due to a long period of habitual inattention, it seemed that Brian now had difficulty paying attention. For years he had been able to slip in and out of attention to lessons and still achieve satisfactory marks. That was now more difficult. Habitual non-completion of work meant Brian found written work very onerous. In elementary school, marks reflected more knowledge than effort and he had "done alright." Now, in junior high, the shift of weighting to assignments was not in his favor. The message Brian was getting from teachers and report cards was that he was stupid and bad. Brian never had thought that he was smart since his elementary school achievement had come without effort. He therefore devalued both the tasks and his own accomplishment.

When I broached the subject of his behavior, Brian admitted being very unhappy at the school. All his friends, it seemed, were in high school and he had no real friends at this school. (Brian had attended grade seven at a different school.) School, he said, was "nothing but a drag."

I talked to Brian about the fact that he was achieving nowhere near his potential as a student. I asked him if he would be interested in my exploring the possibility of his being accelerated a grade in June. I put forward the idea that he might do grade 9 math and science with the aim of writing the final exams in those subjects. Since he was an excellent reader and had good general knowledge, I thought I could make a case for advancing him a grade if he accomplished the math and science. Brian was very excited by the possibility. I pointed out to him that unless he was planning to take matriculation in high school, such intervention would not be defensible or appropriate. He assured me that after spending the summer working in his uncle's tire shop, he knew "for certain sure" that he wanted an education. Brian told me that in the long run this acceleration could be worth fifty thousand dollars to him. It would give him an extra year of working as a veterinarian!

I set about gathering resources and lobbying people on Brian's behalf. There was, of course, general opposition to the plan except from Mrs. Rimmer who wanted to see something happen to change Brian's school experience. I was able to get approval from the superintendent's office for the project which required monthly renewal based on Brian's performance. Brian understood that he would receive minimal school time (three 40-minute periods a week) to work on the grade 9 science and that he would have to take the grade 8 math and science as well. The Math 9 he would work on at the same time as Math 8, but Mrs. Rimmer would allow him to compact the repetitious material in the Math 8. Further to all this, Brian was required to maintain an average of 75% in all his grade 8 subjects. Brian knew that he would have to work a minimum of an hour and a half every school night to accomplish this. He would have to achieve a grade of 80% on Math 9 and Science 9 in order to be considered for acceleration in June.

This was a student, his parents told us, who had never brought school work home in eight years of schooling.

We have much to learn from the fact that Brian succeeded. His school experience was turned around. People said of the proposal in November, "He doesn't deserve it." And that was the truth. He didn't deserve it. But he needed it. I believe that as educators we were responsible in part for Brian's problem. Some things needed to be done differently for Brian in the elementary grades, before he came to view school as irrelevant, before he developed strategies and attitudes to cope with spending hours on end in an environment which did not offer him real opportunity for involvement.

Brian's difficulties are not over, of course. He still has a much more greatly entrenched habit of uninvolvement than of productivity. On the positive side though, Brian is in school. He's in a matriculation program. He has a sense of what is possible for him. He knows from recent experience that he is a capable student. And he has a year's practice of study and work behind him. He knows how it feels to try. He knows how it feels to succeed. No matter what the outcome of Brian's formal education might be, a meaningful intervention was made on his behalf. Brian is a student who would not have been considered as a candidate for a segregated "gifted" program. Low scores on school achievement records, low ratings from teachers and lack of parental pressure would have precluded his admittance to such programs. Brian was a student "at risk." Such students tend more often to get from the system what they seem to "deserve" rather than what they need and are entitled to.

Brad

If Brian was undeserving, then Brad could only be described as very "deserving." Brad was the high achiever. When I met him, Brad was a classmate of Brian's in grade eight. The principal in this case called to inform me that Brad's parents had requested that he be accelerated. Since there was not a grade nine class in the school that year due to enrollment numbers, this would have meant either a move for Brad to another school, or a year on correspondence under the supervision of a staff member at the current school. I suggested that I meet with Brad to discuss the matter. The principal asked me not to meet with the student until we had done the ground work to set the program in motion. Even an informal chat was discouraged on the grounds that we should not "raise expectations" until everything was arranged. Brad had a standing of over 90% in all his subjects. His parents were teachers and his brother had skipped from grade seven to nine a few years previously.

Once central office permission had been given for Brad to be accelerated, I was allowed to meet with him. Brad was dead against being accelerated! He told me that he enjoyed his classes and his classmates. I asked him if he would be interested in undertaking some sort of independent project in science or English. Again, not even a nibble. He told me that he "had to work hard to get 98% in science." The only program modification in which Brad had any interest was in mathematics. Here he was interested in doing Math 9 by working on his own and at home, and in writing the final in June so that he could do Math 10 by correspondence the following year. This proved simple to set up and given Brad's well-developed work ethic and the support of Brad's father, who was a math teacher, success was guaranteed.

The achievers

I meet a number of students, who like Brad, are strongly achievement-oriented. They want to be on sure ground in terms of teacher expectations. They prefer, for the most part, analytical tasks and shun projects which involve creative or divergent production. To such students the marks are of at least equal importance with the learning itself. Mastery of material is of paramount importance. Typically, these students like to consume rather than create material. In graduate work this is Sternberg's "Alice," who is strong in what Sternberg refers to as componential intelligence. This is the student who loves to analyze and study the work of others, but is reluctant to enter the territory of her own ideas.

Students like Brad are most commonly selected for segregated gifted programs since componential intelligence is the main focus of current measures of intelligence. Along with their high school achievement, teacher nomination and parental pressure often combine to make these youngsters the most likely candidates for such programs. I find it particularly ironic that for some students this educational offering is a punishment of sorts.

Competing with a whole class of honors students puts heightened pressure on these scholars for whom mark and rank are often of utmost importance. Teacher expectations in such programs also tend to be greater. Students accustomed to having averages in the nineties in heterogeneous groups can find themselves, in relation to the gifted peers, below average. A further interesting consideration is the fact that much of the material prepared for gifted education suits the divergent thinker, the producer and the creative student more than it suits the analytical, consumer type of student such as Brad. These students want to come up with the one right answer, not the numberless possibilities. And while it is an important aspect of their education that the "Alices" and the "Brads" be given opportunity, and even that they be compelled to experience this processing domain, they experience it with no small amount of frustration and it is almost sure to remain a least preferred style of operation. Where the "Alices," Sternberg's example of individuals strong on componential intelligence, find themselves under the tutelage of the "Barbaras," Sternberg's example of individuals strong on creative intelligence, they are likely to have unhappy and to some extent unsuccessful learning experiences. The "Barbaras" undervalue typically what the "Alices" are good at, and the "Alices" cannot produce what the "Barbaras" want.

Brian and Brad remind us to look, with the student's help, at the problem and the possible solutions since he or she often can point the way to both.

The Spectrum of Gifts

Although most gifted programs list psychomotor, artistic and leadership talents as well as other abilities within their definitions of giftedness, it is too seldom that gifts other than those involved in "school smarts" receive actual recognition. And yet we know that in the real world, these abilities and aptitudes are often the foundation of happiness and success in people's lives. And the many aspects of talent and intelligence in the physical, mental and emotional makeup of individuals are deeply intertwined. We know, too, that gifts other than analytical reasoning power are the well springs of great and small benefits to society at large. And finally, we know that the recognition and affirmation, however small, of a child's gift can fuel that child's efforts and open up his or her horizons. These considerations indicate that educational policy and practice ought to be informed and influenced by the gifts of children.

Tanya's gift

During a teacher inservice session, almost apologetically a colleague brought forward the story of Tanya. She said, "I know this is a little off topic, but I'd like to tell you about her before I talk about the real gifted students."

Tanya was a grade three student barely coping with work at that level when her teacher initiated a Friday "talent show" which featured one student each week and showed the class that student's special strengths. Tanya was new to the school in this school year. So far she had not made friends and a trend of leaving her out of things had begun to strengthen. Tanya's poor performance on school tasks and tests further increased her introverted behavior and separated her from her peers. The teacher had found out through an interest inventory that Tanya had done a lot of riding and had competed in many gymkhana events. On Tanya's featured Friday, the teacher had her bring ribbons she had won as well as pictures of herself with her horse. She had Tanya prepare to describe to the class what the junior barrel race entailed, how the event was run and how you trained your horse for it. As Tanya talked about something she loved and knew a lot about, her animation carried her and her classmates were drawn into the wonder of it. Here, after all, was real talent! Not to be compared for one instant with getting a 100% on a dumb old spelling test. The boys were particularly full of praise and interest for Tanya's ability. Even when the recess bell rang, so the teacher recalled, students lingered behind to get a closer look at Tanya's pictures and trophy. Everyone, including the teacher, saw a different Tanya, with more possibilities and more to offer than the quiet and insecure child of an hour before, seen as she was, for the first time, in her own element.

And the teacher went on to share with us that things were different for Tanya at school from that day on. Little friendships took root. Tanya was helped by other students, was happier and seemed to apply herself more diligently. The teacher admits that she herself had a revised notion of what Tanya could accomplish and so on.... The way it goes.... Not often enough.

I was encouraged by the teacher's efforts to bring out the children's gifts and strengths, but given our County policy, I was discouraged to see that the teacher still didn't see Tanya as having real gifts. I made the point that Tanya did have real talent. More, in fact, of that particular type than anyone else in grade three, including the teacher. Talent of a sort more likely to be important in her life than perhaps any other. Important, therefore, to Tanya. Maybe even to others. Talent worthy of recognition in whatever way is possible within a system which gives little recognition to so many important talents. Talent upon which might be built the self-esteem to allow Tanya to see possibilities for her future self, to allow Tanya to take the risks which the pursuit of those possibilities might involve.

Paul's gift

Paul is yet another talented student. I was lucky to meet Paul at all. I had assessed a student in the same school, a boy in grade five who did wonderfully well in school, but whose parents felt was not being sufficiently "challenged." Once the situation came under full attention, I was able to convince the parents that a more serious concern existed in their son's unhappiness, in his lack of friends and school playmates, than in his academic situation where he exhibited symptoms of being under pressure with the current work. Having brought this matter to light, however, I was not at all clear on how we might intervene to help in the situation. Speaking with the counsellor, I said that it being a student-to-student problem, I wasn't at all sure that we could help. He informed me that the school had a peer support group, and given some thought, he would be able to come up with the right person to help Kevin. This is where Paul comes in. He was the person called upon to help Kevin. And Paul had talent. He had the precious talent we call compassion. He had a genuine wish to see Kevin enjoy friendships and fun such as boyhood should rightly include.

Paul kept total confidentiality. Kevin was a new friend, not a new project. We underestimate the humanitarian capacity, the development of compassion and responsible social action, of which some children are capable. We recognize precocity in mathematics and in music. There are youngsters who have the kind of talent Paul possesses in inordinate intensity. Taken to its extreme fruition, we see the epitome of such talent in Mother Theresa and we doubt not for a moment that the world is a better place because of it. What Kevin's teachers and parents could not do for him, and what needed doing, Paul, over the course of a year did for him. And he did it so well and so completely that Kevin was not dependent on Paul for friendship, but had a circle of classmates who included Kevin regularly and sought his company. No one but the counsellor and Paul and I knew that that was the plan. Again, I had an opportunity to be taught by a child something about "giftedness."

Daneda's and Laurie's gifts

Daneda and Laurie were two honors students in grade 9. They were classmates and friends. The counsellor asked me to talk to them about their programs to see whether some modifications would be appropriate. Both girls were responsible students whose teachers were willing to allow them to take class time for a project. The girls would simply find out what the assignments and test dates were and prepare for those on their own.

A project which really interested them was the proposed school career fair. They took this organizational task on completely, under the indirect supervision of the counsellor. The girls made up questionnaires and surveyed the seven hundred students regarding student interest in various careers. They tabulated information, made a time-line for the organizational tasks ahead of them. They drummed up resource people and confirmed in writing all the speakers. They arranged for the space and timetable of speakers. Students were registered in advance for sessions. The girls saw to every detail of this successful career fair right down to clean-up committee and thank you cards. They made a wonderful offering, which the teaching staff would not have been able to take on, possible for fellow students.

Throughout this project, the girls never missed an assignment in any subject, nor were their marks in any way affected. They grew in confidence and organizational skills and best of all, they loved it. It changed the school year from a ho-hum routine to one of challenge. The extra work was welcome. I know from the follow-up reporting and from conversations I had with the girls that it was a significant experience for them to discover they possessed such abilities and to have an opportunity to exercise and develop them. Many aspects of life and work in society depend upon the organizational talents of its members.

As a bonus, when the girls had completed the project, we set up a personal career exploration for them based on an interest they shared in politics. We arranged for Daneda and Laurie to spend a day with caucus researchers finding out how they prepare materials for their MLA's. The girls also met several MLA's and had lunch with the director of the research branch at the provincial Legislature. They attended question period and were introduced in the House.

Strengths Create Needs

Students, because of their unique abilities, often have a need to work outside the standardized routine. They can sometimes propose the solution which will meet their own needs if we discuss the situation with them. The solution is often a relatively simple one requiring only approval or flexibility from the teacher. In this way, dialogue with students about the experience of the school day, often helps to de-mystify the whole question of serving the gifted child.

Blaine's need for autonomy

Blaine was a student who excelled in math and science at the junior high level. He was a whiz on computers. In grade 9, Blaine took Physics 10 and Math 10 working from the correspondence lessons under a staff mentor. He worked in the computer lab as an aide and he created programs for other students with special needs. Blaine was one of those independent learners whose time was probably better spent processing information at his own rate than sitting in a classroom being "taught." He was methodical and thorough and completely responsible.

Blaine's personal standards were high and he never let himself off with less than his best. For such students, surely the best we can do is offer them resources, human and material, and allow them to take charge of their own learning.

Conrad's need to produce

Conrad, also a junior high student, wanted to do some in-depth study of the Industrial Revolution. He was given time out of social studies. Conrad read several Dickens novels including Hard Times, which he said he'd have had a difficult time finishing if not for the project. Using information from history books and novels, Conrad prepared a video program in which he portrayed Charles Dickens. As Dickens, Conrad discussed his work and life in his times. He did an excellent job of the project which itself became a resource for other students studying those times. Some students produce more happily than they consume. These students can be resources and create resources for others as they fulfill their own needs.

Tony's need for support structures

Tony's parents were unhappy about his marks. They felt that their son failed to complete work because the work was boring and repetitive for him. They wanted to see the school provide some other program for Tony. The parents belonged to a lobby group for gifted children. This organization has been very active and largely due to its advocacy provision for the needs of bright children has been made in the School Act. It is unfortunate that some of its members have tended to take an adversarial stance in relation to the school system. For some parents belonging to such groups, the school is the scapegoat. Everything that is wrong with and for the child is somehow the fault of the current and/or the previous educational institutions the child has had the misfortune to attend. And the child's problems are also seen to be connected with giftedness and the lack of teacher attention regarding the child's giftedness. That was the case with Tony.

I spoke to Tony's teacher before I met with the student himself. Mr. Jackson said he was unable to comment on Tony's writing ability since he had not seen any written work. No assignments had been turned in in two and a half months of school. Mr. Jackson referred to his mark book and described each of eight or nine assignments done by the class in grade 6 language arts. The assignments seemed to me to be reasonable, varied, and interesting. The assignment, for example, on the Olympic Games (which were at that time in progress) was to choose a sport and do three pieces of written work. The first was a research piece involving the history of that sport. Artwork in the form of drawings or diagrams could be part of this report. The second piece of work was to be a short biographical sketch giving background information about an athlete competing in the sport chosen. The third component of the assignment called for a creative piece of writing in which the writer was to imagine being a participant in that same sport. The writer would describe the thoughts and feelings of the athlete (himself) as well as the scene in which he found himself at the beginning of his event.

I could see that at least some aspects of this assignment would challenge and interest most grade six students, especially since the choice of sport was theirs. In Tony's case, only one part of the assignment showed up and that was after phone calls had been made to the parents. The other parts were said to have been completed but were misplaced before they reached the teacher's desk. The piece of work complete was late because Tony's mother was too tired when she got home from work to put it on the word processor. Then Tony's father took the disk to work and Mom was unable to do the assignment until the disk was brought home. Tony was not made to write by hand as he was very slow and made a lot of mistakes. Tony was not required to use the word processor himself, again because he was slow at keyboarding and it "seemed silly to discourage him" when Mom was willing to do it for him and she was so much faster!

Looking back in Tony's educational history, I discovered that he had been very slow to learn to print. In fact, he was only just printing at some below-average rate when behold! the class began to learn cursive writing and within a short time that was the prescribed mode of written communication. Tony visited the resource room on a regular basis in order to improve his handwriting.

Tony told me when I interviewed him, that he hated writing. I tried to get him to separate the mental act of composing from the physical act of writing. I wondered if he could have ideas and organization skills, but be reluctant and unskilled in only the physical aspect of writing. Together we were not able to figure that out. But certainly there was a big problem here. Next year, Tony would be in junior high school where the marks are greatly dependent upon the production of written work in all subjects. Tony had up to this point been purely a consumer of information. The notes which he failed to copy were in his head. He remembered things from reading them or hearing them. He read voraciously for information and for entertainment. He was extremely articulate and had an advanced vocabulary. For entertainment at home, he told me he played video games from after school until his parents came home from work at nine p.m.

Tony is one of several bright students I have assessed who have difficulty generating and producing material. This is a special handicap and one that needs our attention as it has the potential to greatly limit what some young people will achieve. Meeting Shane at around the same time gave me some insight into the problem. Shane was also bright and knowledgeable. Shane was also excruciatingly slow to accomplish written work. And Shane was also visiting the resource room to improve his printing. But there was one important difference between Tony and Shane - Shane was in grade two.

Shane's need for support structures

Shane's parents were concerned about their son's poor self-esteem. They felt that because he never completed work and received only part marks, Shane was getting the message that he was dumb and that conviction was interfering with his general performance in school. I very much shared their concerns. And having so recently seen an example of what could happen to students like Shane, I was doubly determined to attempt to find some meaningful form of intervention. The teacher was a sensitive and flexible individual and together we tried a variety of strategies.

If written work required ten sentence answers to questions, Shane answered three in sentences and the rest in short answer form. This way he could get ten out of ten correct and still be finished with the class. As Shane got better, he would do five out of ten and six out of ten. For some written work, Shane would dictate his ideas and a classmate would write them down. This way Shane's work could be shared at the same time as the work of other students. For homework, Shane would copy the work in his own printing. If Shane did not complete copying something from the board he would still join the group for the story. Someone would lend it to him or finish copying it when they were done. Shane was introduced to keyboarding and every opportunity was given him to do written work with the computer. When the class began to do cursive writing, Shane learned it along with everyone else. But he and other students had a choice as to printing or writing when it came to most assignments.

A year later Shane has the same teacher, who moved up with the class. I visited him last week. He prefers now to manage getting things down for himself and doesn't want to have anyone scribe for him. He finishes work in the alloted time and tells me that he is "not the last one to finish." Shane had a good report card. His parents say he likes school this year. The headaches which plagued him last year have all but disappeared. Shane's mother wrote of the school's strategies for helping her son, "It was the dismantling of a bomb."

So Tony and Shane have taught us something about gifts and talents and about how easily they can be limited and diminished by frustration and failure, by inattention to the accompanying needs.

Kim's need to see possibilities

Kim was an honors student in the second semester of her last year of school. She was unsure as to her plans for post-secondary education. The counsellor approached me with regard to setting up some kind of career exploration for her. Kim was interested in business and also in journalism. She didn't know which way to go with regard to university. I talked to Stephen Hume, who was at that time editor of the Edmonton Journal. He made a wonderful experience possible for Kim. She spent a week at the paper: one morning with the court reporter, one afternoon with the legislative reporter, one day with the photographer. Kim spent time with the food editor, the fashion editor and with editorial writers. She talked to them about their work and about their training. One thing she found out just talking to staff on the coffee break was that no one, not a single journalist on staff at that time had taken journalism at university. Editors told Kim how much more important it was for writers to have comprehensive background in some content area. To know something about art, history, science or politics was more important qualification than to have gone to journalist school. If you were intelligent and hardworking and interested in being a good journalist, they said you would learn about writing for the paper by doing it.

Kim said she learned about another aspect of careers that she hadn't even thought about. She said that the people at the paper accepted one another's eccentricities without question. It was each person's contribution to the team effort that counted. "You couldn't go to work with pink hair if you were a medical receptionist. And people might question your living in a van if you were a teacher instead of a photographer," Kim said. There were aspects of the career situation, freedom and challenge and opportunity for mobility and many other factors to which Kim had not given a moment's thought. This experience was one which affected Kim's choice of university and faculty. It broadened her perspective on the possiblities.

Many gifted adults looking back over their own development have pointed to the almost chance influence of some encounter which opened up possibilities for them. Certainly one way we can serve young people is by increasing the opportunities they have to meet with adults who are themselves gifted and talented.

Karen's need for confidence

Karen was the typical "brain" as the kids called her. She was a shy and introverted girl. She was good in every subject but had a special flair for writing. One of the teachers suggested she join the Academic Decathlon team. This team was made up of members representing "A" students, "B" students and "C" students. The team competed with students from other high schools by entering ten events. Every student had to compete in every event. Most events were carried out by examination, but there were two speaking events, the interview and the public speaking event.

The team, made up as it was of students from different academic levels, was a strange group. Many members were on the team for the three years of high school, or at least for two years. The friendships that built up as these young people taught and coached and learned together were important ones, particularly because the students were so different from one another, holding different values and having such varied interests. Last year one girl who chewed purple gum and was taking beauty culture, was on the same team as one in the militia and one in the youth orchestra. These people came to care about one another and to understand and appreciate the ways in which they were unique. The militia girl had something to teach Karen about self-confidence and the beauty culture gal showed her an attractive way to wear her hair. Karen was valued by the group for the unassuming manner in which she coached and encouraged them to know more than they did, to do better than they could.

The speaking event was a tremendous hurdle for Karen and when, in her grade twelve year, she won a medal in that category, only her teammates who knew how far she had come to do that, could really congratulate her and appreciate what she had done. In her grade ten year, we had also set up an opportunity for Karen to spend an eighty-minute period every second day in a grade one classroom as a teacher's aide. Karen says that that opportunity to interact with little kids in such a safe environment helped her to come out of herself.

Finally, in Karen's last year of high school, we ran a special session for a small group of kids to work with a playwright. The students wrote plays which were read by the playwright who then made suggestions for revision of the work. Completed works were entered in the Alberta Playwriting Competition for high school students. Karen's play won the contest - $500 and a chance to have the play produced!

The opportunities Karen had were available to many kids. The fact that some youngsters take (and make) such opportunities while others pass them by can perhaps also inform us with regard to the development of gifts and talents.

How Trish's needs are met

I learned something of real value from Trish. She had been in a segregated gifted program in the city. It was a class of students from a large area of the city who had been selected for the program based on IQ, school achievement and teacher nomination. When she moved into our county, she attended a small K-9 school. I met with Trish to discuss possible modifications to her program. Trish's English teacher had recommended a program assessment. He said Trish read and wrote at a level which would be acceptable in university. He was concerned that because of this, her time in class was perhaps not being well spent.

I talked to Trish about each subject. She said she would be interested in moving ahead in math with the intention of doing Math 10 by correspondence.

"What about language arts," I asked.

"I love it!"

"Mr. Charles tells me that your language skills are very strong and that you could afford to miss class time to do a special project if you wanted to do that."

"You mean be taken out of L.A.? No I wouldn't like that. I really like L.A."

"Well, you could still be doing language related things. I mean, maybe you would like to read biographies of women who have had interesting careers..or"

"No. I wouldn't want to miss anything in L.A. Mr. Charles makes it so interesting. I'm really learning a lot."

"So you feel your time is well spent in that class? The work is not repetitious or boring for you?"

"Not at all. Assignments are always open-ended. You can do as much as you want or you have choices so you pick something you can really get your teeth into. Like, we are doing a unit on relationships. Part of it is us bringing material. Poetry, newspaper articles, stories, even cartoons. We did a unit on aging, and besides reading all these stories and articles and seeing a couple of movies, we visited senior citizens at the lodge. Our seniors buddies told us about their lives and we wrote poems based on the reminiscences. I found all of these things interesting. Now we're studying about driving."

"Driving?" I asked.

"Yeah. All the kids are studying for their learner's permit and we're looking at what goes into a manual and how tests are made up. We've read some great stories and essays. We've talked about what it means to 'read the road' and..."

Well, needless to say, I had heard enough and it was music to my ears! Here was a kid who didn't want one thing changed in L.A. Here was a very bright and able kid, one who had been in a special school with other bright kids and with teachers who had been handpicked and trained in so-called "gifted ed." Here was this kid telling me that she loved L.A. in this ordinary class in this ordinary school. And that was just the living breathing evidence of what I had believed from the start to be true. Trish was being taught by a not-so-ordinary teacher. By someone who knows we have to address the things kids care about and find ways to make them care about other things that are important. By someone who knows that we have to use many modes to reach all kids, have to open-end things so they can reach, have to provide structures of support. By someone who knows they have to see that they themselves have something to share, something to teach. Here is Gifted Ed. It's the master teacher with the wonderful gift, the gift of pedagogical wisdom. It's Trish's teacher.

Evident Aptitudes and Preferences

The more I talk to students and listen to students, the more inclined I am to do so. They can tell us a great deal about how they learn best and where their aptitudes lie. Some children, even as young as the primary grades, seem to have very strong and clear-cut preferences. The desire, and probably the aptitude, for working with people, for example, is expressed by very young children. Kids in grades one and two often tell me, for instance, that they like "helping others" or love to "play school." Leadership ability may be demonstrated early. A grade three girl told me she had a recess club which was made up of several primary schoolmates. She said it was called the Cat Club. "I have several kittens, three dogs and a cougar," she told me. "David is the cougar and he acts as a guard." Her teacher told me that in the classroom she automatically assumes leadership. When I ask students if they would like to work with kids at a kindergarten or grade one level, to read to them or scribe for them, their preference is immediately evident in their facial expression and body language as well as in what they say.

> "Oh Yes! I would like that very much!" says Katie, opening her eyes wide.
>
> "Well... I guess it would be OK," says Kirsten with a small shrug.
>
> "But there are things you'd rather do, eh?"
>
> "Well, yeah." she says, nodding and showing evident relief that I understand.

Even those who most want to please me give away their real preference, and as I listen to these youngsters I am continually amazed to realize how strongly and instinctively they seem drawn to those areas where they have strength and aptitude.

Many students in elementary grades say they want to be teachers. I am also reminded by student remarks how strongly a learner responds to a teacher's own enthusiasm for a subject. Several students from the same class will all cite the same subject as a favorite. Some will say things like, "This year it's science because Mr. Colter makes it so interesting." Or they will name another subject as a favorite and say, "and science, this year." With these students it is obvious that science has not been something which interested them in the past. With the big focus on the study of dinosaurs, many children in grades one to three have told me they might be paleontologists. Children tell me they me they would like to be zoo keepers or veterinarians. Some have said they plan to build things and still others say that they will work with computers. Students say that they would like to be artists and authors. Many tell me they hope to be professional athletes and they name the sport... gymnastics, soccer, baseball or hockey.

Thinker and doer

The two students who surprised me the most in their strong and unique preferences were a boy in grade eight and girl in grade three. Stephen said he would like to learn about other times. The Middle Ages and Renaissance interested him the most, but he was sure that there were other periods that would also be of interest to him once he got into it. It is seldom that students mention being a "scholar" in any field. A few say they would like to be scientists, but even here one usually has the sense that they expect to "make" or "do" rather than "study." This young man wanted to an historian. I thought perhaps his parents might be professors or teachers and I inquired because I was intrigued. The boy lived with his father, his parents having parted. The father worked for the Department of Agriculture in some capacity, but himself was well read in general history and had in his personal library many, if not all, of the books his son would need to undertake a special project in his area of interest.

The other student whose response I found remarkable was Joanne, a girl in grade three.

> "What kinds of things that adults do as careers seem interesting to you? Things that you might one day like to do yourself?" I asked Joanne.

> "I will grow flowers when I grow up. Yes, I will be a person who grows flowers," she told me in a very definite way. "Have you been in Safeway this week," she went on. "They have wonderful plants this week for Christmas. Do you know ..." and she went on to tell me about plants whose names I did not recognize. "Bird of Paradise you would know," she said hopefully. "It looks like a crested bird with a long beak." She hinged her hands at the heels of the palms and opened them slowly. "As it blooms the beak opens like this and it is so beautiful!"

She described other blossoms in a way that I could indeed visualize them. Flowers that I had seen, but not really seen, in Safeway that week. And as she spoke, I did not for one moment doubt that Joanne would grow up to be a person who grew flowers. We went on to talk of her love of drawing and story-writing and she was pleased to think that she might perhaps be able to do some of these other things while she grew flowers.

Fact and fiction

As children told me about their reading preferences, I could see again both the influence of significant adults and the operation of what seem to be innate preferences.

For some it was all Facts. Biographies of athletes or scientists. Amazing facts about animals. Natural disasters. Guinness Book of Records. How-to books on making models or paper-folding. Magazines about wrestling or hunting. If they read fiction at all, it was realistic fiction and offered some knowledge about another time or place. It was Farley Mowat's Lost in the Barrens, or Barbara Smucker's Underground to Canada. For other students, the reverse was true. Fairytales and fantasy. Tolkein and C. S. Lewis. It was comic and cosmic heroes. They read science fiction, myths and legends. With many bright children I was distressed to ascertain the limited scope of their reading. And while there are certainly children with broad interests, except where parents, teachers and librarians are making specific efforts to introduce children to a variety of books, many youngsters are having a very limited literary experience.

Consumer and producer

With preferences in terms of processing and producing, some children would rather invent word puzzles than do them. Some children more naturally look for questions than for answers. Some children like to consume material while others prefer to generate it. Junior high students told me more than once, "I hate answering questions on the story."

When I asked them what they would rather do to show their understanding of the work, they said they would rather write an essay. There was something about writing an essay which challenged them and that was preferred over the easier task of answering the questions.

Convergent and divergent

Some students express a preference for clear direction about the task, while their classmates want to design the task themselves. Kids say, "I love art. Except for coloring." "Have you seen those how-to books?" I ask. "I have some that you might like to look at.." "Yeah. I've seen them but I like to do my own thing kind of..."

Others say, "I like to draw. I have a lot of how-to-draw books, you know? How to draw cats and how to draw cartoons. I like them. And I like to color." Some students want to move with purpose in a very focussed way. They're going to the library to look up the reason a cat's eyes shine in the dark. Other kids want to go to the library and forage, "just look at a bunch of books and magazines about cats." They just want some space. They like a blank page better than a workbook page.

The Scope of Diversity

Children's abilities differ in type and in degree. The following table is a partial list of types of differences which exist among students. I have used this as a framework from which teachers might generate strategies for accommodating student diffferences. As a group we would take a spelling improvement, for example, and see how the diversity of needs could be met within a classroom. What could we do to allow students to work at a variety of levels? of rates? And so on. Such a table, if it does nothing else, serves to heighten our awareness of those differences and it reminds us of the narrow scope addressed by the lesson in the speller, viewed against the complexity of the student needs represented in any classroom. (See Appendix A for the strategies teachers generated.)

Students Express Many Types of Differences

Differences in levels at which they can work.
Differences in rate/pace at which they comfortably operate.
Differences in subject (content) interests.
Differences in preference of learning style.
Differences in preference of learning context/climate.
Differences in preference of output mode or product.
Differences in willingness to risk.
Differences in tolerance for ambiguity.
Differences in personal energy levels.
Differences in task commitment, focus, perseverance.
Differences in personal standards.
Differences in emotional well-being, confidence, self-esteem.

TABLE 15
Some types of student differences

What can we learn from kids about the development of gifts and talents? Since we have few instruments which can probe with any accuracy the possibilities hidden within children, we will do well to let them tell us whatever they can about their school experiences, their hobbies, their hopes and their questions. This way children can provide critical information and insight about how and what they learn best. And we will do well to heed such information as we plan their programs. As we recognize and affirm their strengths, and as we "protect their passions" students will be more willing to enter pursuits in which they are not as skillful or knowledgeable.

CHAPTER IV

TEACHERS INTERPRET GIFTEDNESS

Policy Filters Through Teachers

Teachers create curriculum largely independent of County policy. Gifted education as it translates into classroom practice for teachers and classroom experience for students is greatly shaped by teachers' beliefs about giftedness. And by their unique gifts as individuals and as teachers. Even in segregated programs with strict selection criteria, teacher attitudes are strongly influential.

Children are, in most cases, selected for segregated programs on the basis of IQ, school achievement, standardized testing and teacher (sometimes parent) recommendation. In this sense the underlying notion of giftedness held by the teacher influences the ratings students receive from them. Where teachers believe that demonstrated knowledge and skill on school tasks constitute giftedness, students who display these skills receive high ratings. In cases where students are also well-behaved, these scores are further boosted. In this way, children who demonstrate what we might call "school smarts" have highly inflated scores (the same factors being, in a sense, credited to them several times). By the same teachers, other able students are rated very low. Students who show intelligence in verbal output but are poor or reluctant writers, students who create discipline problems for teachers, students whose interests and knowledge are broad but whose production is limited or unfocussed, these children are given such poor ratings that they fail to make the selection criteria. In these cases, the same deficiencies count against them over and over as school achievement, standardized testing and teacher recommendation all measure the same factors.

Even in the case of teachers who recognize the potential of these same students, their scores, diminished by the school achievement and standardized test scores, are still much lower than the inflated scores of the students with "school smarts." Only in the event that such students possess ability of the sort Sternberg designates as "Componential Intelligence," are these students selected for segregated programs. Because this type of ability is measured by IQ tests, educational decision makers concede that despite the poor performance on school tasks, there is evidently some ability as yet undemonstrated by the student's school performance.

Segregated programs often admit candidates who, it would seem, deserve the program rather than those who need it. As we have seen through the interviews with children, many students who are achieving in school are happy with the status quo and some would not welcome changes in their school experience.

Once children are selected for segregated programs, teachers can still have an influence on the child's experience. Teachers selected to be "teachers of the gifted" soon become the "gifted" teachers. And colleagues, by implication, are the "ungifted" teachers. "What is it, after all," they wonder, "that this teacher can do for my student that I can't?" Often teachers resent the indirect statement this makes about their classroom program. Sometimes they are also inconvenienced by the fact that one or more students are absent from the classroom at certain times. Students are sometimes punished for being "in the program" by having to catch up work, borrow notes or miss field trips enjoyed by their classmates.

The program in place in our county is more vulnerable than most in terms of teacher impact. Since typically no testing takes place apart from what may already have been done by the school or an outside agency, teachers are, in most instances, the initiators of program modifications for children in our system. Through staff inservice, the programs facilitators urge teachers to identify those children whose current school experience does not meet their needs. Teachers are encouraged to consider a wide variety of individual student strengths, needs and preferences. Many strategies are suggested to teachers as ways of accommodating these student differences.

While it is true that teachers' beliefs about "giftedness" influence selection of students for attention in our program, even as it is true of segregated programs, here the emphasis is clearly on "needs of students." And as teachers know that while they are responsible for meeting those needs, the programs facilitator's role is to assist them in doing so, teachers seem more willing to raise the issue of underachievers and of those students who show talents apart from scholastic aptitude. Also, because students are not identified for membership in "a program," teachers are often open to the suggestion that there are other students in the class who might also benefit from certain activities proposed for a particular child who has been assessed by the programs facilitator.

Teachers also say they are more comfortable with the notion of extending gifts and talents than with the notion of the "gifted child." As one teacher expressed it, "We don't have to play God and say this child is gifted, this one is not."

As this approach affirms teachers, recognizes the knowledge they possess with regard to their children, respects the commitment they have to meeting the needs of those same children, and acknowledges that they are entitled to support in facing so great a challenge, teachers respond with the dedication that characterizes their profession. They have ownership for the program. They _are_ the program. And because teachers _are_ the program, who they are shapes the particular expression of the program in each classroom.

This chapter examines teacher influence on gifted programming through the following considerations:

1. A teacher's strengths and preferences affect the way in which he or she views students.

2. The observations a teacher makes and the questions he or she asks reveal underlying beliefs about the development of student gifts and talents.

3. A teacher's agenda often determines what is seen and what can be done about student gifts and talents.

4. The decisions a teacher makes can greatly encourage the extension of student gifts and talents through:
   a) opening up possibilities;

b) creating programming which accommodates differences;
c) bridging to connect previous student experience, to school experience and to future societal experience;
d) cultivating in students a scholarly attitude.

Teacher Strengths and Preferences

Teachers' own strengths, talents and preferences to some extent influence their recognition of the abilities of their students. A teacher with little artistic ability sometimes fails to give an artistic child a real sense of the value of her talent. An example is the teacher who told me about a child in her class who made beautiful and elaborate drawings. She said, "I let Trish draw when she's finished her work, but she pretty well does the same kind of thing over and over." I asked the teacher if she could find ways for Trish to use her ability for the benefit of the class. Could she do block picture stories to represent literature the class was reading? Could Trish make puppets or scenery for a play written by the class? Could she make cartoons or drawings as aids for studying vocabulary or spelling? Was there a teacher, an aide or a parent mentor who might share his or her artistic interests with the child? Could a small group of students who shared an interest and aptititude in this area be selected from several grades to make a monthly trip to a gallery where they could look at works of art and discuss them with a person knowledgeable about art? Could Trish do an independent study of careers and occupations requiring artistic ability?

It seems that as we say students "may draw when they are finished their work," we are saying a lot of things about the importance of drawing, and on another level we are saying things about the importance of that child's talents, and ultimately things about the importance of the child herself. To encourage gifts and talents in students, educators must find ways to show in the school setting the value of each and every gift they encounter. And teachers need to show children what the broader possibilities are beyond school so that they can see positive extensions of themselves into the future.

Teacher preference in terms of personality type can influence the development of gifts and talents of students. If teachers are strong in "Componential" intelligence themselves, they may be less likely to value the possibilities raised by divergent thinkers. They tend to give marks and set assignments which reflect their interest in the one right answer. A high school student failed a physics test because the answer he gave was not the one intended by the test maker. To be sure, he had shown how the height of a building could be ascertained with the use of a barometer, but it was not the solution his teacher had in mind. When the results were appealed the student gave another six or eight ways the solution could be found using the barometer. He still avoided the obvious means of using the barometer. Finally, the examiner asked him if he did know the intended method solving the problem. He did know the intended answer but wanted affirmation of the value of his ability.

Towards the end of a parent-teacher interview, I remember saying to the father of a junior high girl. "About the only concern I have regarding Cheryl, is her lack of participation in class. She never volunteers a comment or an answer orally." The father inquired as to whether or not that was a problem for me. I remember being somewhat taken aback by his question. While I floundered, he went on to say that he believed Cheryl was very actively participating mentally since she came home with many comments which showed her interest and absorption of the material. He gave me specific examples of things she had discussed with him.

I reflected then on the egocentric nature of my observation. It became obvious to me that I believed at some level that because I was a highly interactive individual who processed information verbally, that was the only way, or perhaps the best way to do so. That a student could be engaged with the material in a reflective, internal manner had not occurred to me. That such a reflective way of being in the world could be seen as an orientation of equal and different value compared with my extroverted style was a genuine revelation to me. Certainly if Cheryl wished to share her thoughts with the class and was frustrated and diminished by her inability to do so, the matter would be one requiring intervention. But as long as Cheryl processed the material (her way) and could manipulate that material or share it in a written, artistic or spoken communication of her choice, I had to agree that the problem, if any, was mine.

As educators we need to be highly aware of our own strengths and preferences in order to examine our decision making with reference to the variety of types and talents among our students. As teachers, our strengths and preferences often determine what we will cover in terms of content emphasis, what we will do (in terms of activities, processes, products) and what we will reward (in terms of the distribution of marks and creation of tests and assignments). This next section show us some examples of how these influences manifest themselves.

Teacher Observations and Questions

Teachers know a great deal about their children and they invariably want to know more. The information teachers share with me before I meet with a child helps me to put the interview in the context of the child's classroom behavior as viewed by the teacher. It also lets me know something about the teacher's belief system as she tells me why she has requested my involvement with this particular child.

Teacher #1

> "I'm just not sure about Kevin. The comments he makes in class show that he can really understand things. The questions he asks go right to the heart of things... but his work is generally disorganized. He has a hard time finishing tasks. And he disturbs others. He knows a lot for his age but his marks on tests of material covered in the classroom are only average, if that. I'd like to see him producing work that reflects his ability. I don't feel that this is the case now. I'd like to know if there's a way I can get more satisfactory results from him.

> "I'd like you to talk to Joanne. She is an excellent student. She's always the first one finished her work and it's always well done. I'm afraid it's all too easy for her and that she's bored with school. Oh, she never complains or anything like that but I just think she needs a challenge. If there's an area of interest she would like to pursue I would certainly be willing to facilitate that.

> "Tanner has me concerned. It's as if nothing that goes on here in a day has any interest or relevance for him. He daydreams and squirms and makes things out of his pens and erasers and rulers. Pens break and he has ink everywhere. Last fire drill, Tanner had his shoelaces tied to the legs of the desk and he had to go out in sock feet because we couldn't untie them in time. On the standardized reading test he

> scored below grade level because he doodled and gazed about instead of completing it. I'd really be curious to know what he could score because he's an excellent reader. He always has a book. Lately it's been biographies. Leonardo Da Vinci last week and Benjamin Franklin the week before. He tells me things that amaze and interest him so I know he's really understanding and taking in what he's reading. He told me that when Columbus was preparing to sail in search of the West Indies he couldn't get a crew together because sailors were afraid to sail beyond the sight of land. He said that the King of Spain offered to pardon prisoners with life sentences if they would sail with Columbus. Only four prisoners took the King up on it. Tanner said, 'I guess they really did believe they would fall off the edge of the world! Imagine staying in jail for life instead of going with him!' This kid is in trouble from morning till night. His dad is really hard on him. Tanner is always forgetting his lunch, missing the bus, losing his gym strip.... Anything you can tell me that might improve the situation will be welcome. This is a kid with a lot on the ball but he never gets feedback that tells him that. I'd like to see his ability recognized. I'd like him to succeed at something so he can see that the strengths he has are valued. Good luck."

Teacher #1 is tentative toward his students. He's probing, wondering. One senses that he appreciates the complexity of these matters and although he's asking questions, he really doesn't expect cut and dried solutions. It's as if he's inviting me to wonder with him. Maybe throw out some possibilities, maybe ask him some questions so he can dig a little deeper and find his own answers. And what he wants in every case is something for the child. Even the results he wants from Kevin and Tanner are for them, so that they can see their own abilities and possibilities. He values Joanne's time. He seems to be saying, "she's doing everything right for me and I want to be sure there's something in it for her!" In this teacher, I feel the leaning toward potential - what might be, what could be.

Teacher #2

> "Sarah is a good student. I wouldn't have called you in at all except that her parents say she's gifted and they want her doing something more challenging. They say she used to be so keen and enthusiastic and that because school work is so boring and repetitious she's becoming apathetic about learning. They say she's shutting down. It's a term they use at those meetings for gifted kids. Fern got it last year when she taught the brother. Apparently he's gifted, too. Sarah is a good student and a nice little girl but she's by no means the brightest child in my class. She's a hardworking girl, too, and as far as I can see she's under a lot of pressure from home. They make her come back after a test and question every place where she lost marks. She said once that her parents go through the test with her to make sure she knows whatever she missed and to make sure she hasn't lost marks where she shouldn't have. Isn't that something? You can be sure that's one test I check twice. They'll phone me if they think she should have had an extra mark. Anyway the principal thought it would be best if you talked to Sarah about her program. At least if it gets them off my case I'll be grateful."

This teacher is matter of fact. Here's the situation. I wouldn't have called except... What I really want is... She seems to be saying that Sarah's needs are being met and that it's Sarah's parents we are talking about here. And while this may be so, perhaps Sarah has other needs resulting from the parental pressure. But the teacher here is centred on "the problem," which as she sees it, is the parental expectation. Giftedness for this teacher is a curse. It's a burden that's been put on Sarah by her parents and one that's landed on her as a teacher having to deal with it. There are no genuine questions here. Only the one rhetorical question, "Isn't that something?"

Teacher #3

> "Here's a list of kids in my class that I would like you to see. These first three are achievers. They work quickly and well. They could be doing some things differently if they wanted to. See what they say. Maybe I could test them out in math if they want to go on or they could do some other math activities. L.A. Whatever. Their skills are good. They could work on something they're interested in. Michael's a great artist, too. The next two are kind of disorganized but they know their stuff. These two tend to chat and fool around a little bit and it wouldn't hurt for them to be more interested or challenged by the work. Katherine is always asking if she can work ahead in the math book. Now these last two, Brent and Andrea, may be a little harder to figure something out for. Brent is very quick mentally, but slow slow with the written stuff. If he could give me the answers out loud he'd finish first. It's getting it down in his book that's the problem. But still, I think he has real ability and I'd like school to be a little better place for him. Andrea on the other hand is quiet and plodding. But I don't think it's because she has difficulty. She has a sort of air about her as if she's resigned to it all. She never complains but she never seems to be enjoying anything. Except maybe story writing. She's good at that. Her stories go on for pages and they have nice descriptions. She thinks of good endings. They don't just ramble if you know what I mean. She seems to know where she's going with them. She doesn't talk though. I don't know how much you'll get out of her."

Teacher # 3 has a shopping list. I need something here, and some of that and throw in a little.... This teacher expects remedies and answers. He wants things fixed. Looked after. I am supposed to be the expert. I should have in my bag of tricks just what is required. I have the sense that things are very much in my hands. He has done his job by coming up with the itemized list. And, indeed, his observations show this teacher's perceptiveness and goodwill toward his students, but it's obvious he expects the extensions to be outside of what is happening with his own planning. Has the whole creation of "gifted education" encouraged him in this perspective? Made him believe that the development of gifts and talents is something different from education itself, something over and above it? Have we made it a province of experts and specialists? If so, he says, bring them on.

Teacher #4

> "Mrs. Blakey wants Curtis to be on a gifted program. (The teacher says with meaningful empha~~sis~~ and she rolls her eyes.) As far as I'm concerrned he's a little turkey. He has a terrible attitude. Everything is 'dumb, stupid and boring.' His marks aren't great. Oh, he knows his stuff, alright, but everything is sloppily done. Just to be done. There are lots of kids in here who are more gifted than he is. I'd hate to see him given privileges when other kids do better work and are better behaved. His mother says the reason he doesn't do better is because he isn't challenged."

This teacher knows that giftedness is not Curtis' affliction and furthermore she has a pretty good idea what he might be suffering from. Whatever potential Curtis may have, this teacher is unlikely to coax it into sight. The gifted students in her room are those who are well behaved. They finish their work quickly, quietly and neatly. (Most of it is also correct.) The gifted students in this classroom also have parents who have the same expectations for their children as the teacher has and they approve of the way she runs her classroom.

In Response to Teachers

In these initial interviews with teachers they indirectly outline the parameters of my intervention. I have an indication at this point just what teachers will accept as suggestions for modifying children's programs, whether they will allow students to substitute work for certain assignments or whether students will have to comply with the teacher's agenda first before being allowed to pursue their own. I also have a feel for the teacher's attitudes toward teaching/learning and his or her preferences in terms of structure and flexibility. These considerations shape to a large extent the possibilities for students and as I respect perceived teacher attitudes and preferences, I increase the likelihood of my being able to have impact for the benefit of the child.

In response to teacher # 1, I will provide some colleagial support in wondering and in experimenting with some materials and strategies for his students. For teacher #2, I may be able to talk to Sarah's parents and convince them to ease up on the teacher and on Sarah. For teacher #3, I will get a car load of material for centres, enrichment activities, kits and software which may or may not be used. With teacher # 4, I may need to intervene on Curtis' behalf by getting him out of class to do a special project, to work on the computer or to take math with the grade ahead depending on what kind of "turkey" he really is.

As a programs facilitator, I meet with the students about whom teachers (or parents) express concerns. (Excerpts from such interviews were presented in Chapter III.) Based on these interviews, I write a brief profile on the students detailing information about them and suggesting strategies to help meet their needs. (See appendix B for examples of student profiles.)

The teacher receives a copy of the student profile. At this point I conference with the teacher to determine which, if any, of these strategies might be implemented for the student. Together we ascertain what resources would be needed for implementation. Sometimes the key person in carrying out or monitoring the modifications to the student program might be another teacher, a librarian, a counsellor, administrator, parent volunteer or an aide. The student might be paired with a peer or an older student. There are times when we use resources from outside the system. In some cases material resources, books, kits or software have to be acquired. Conferences with other staff and/or parents might be necessary or desirable at this time. A time-line for projects might be set down and evaluation measures projected. Sometimes many small adjustments are made to the student's program while in other cases one aspect of his or her program is altered. A teacher may choose to set up a project which involves several students or simply allow one student to work on a project independently. Many strategies have almost universal applicability, such as the creation of reading lists for students, whereas other strategies, such as those we used with Shane (Chapter III, the boy who had difficulty with written work) would be tailored to the specific student need.

These student profiles are by no means prescriptive in nature, but rather hope to be a starting point for dialogue about the student's program needs. It should be remembered here that unlike the situation where students have been identified by student services, in these instances teachers have initiated my involvement. This fact, in itself, facilitates a more open and positive exchange between us.

The Teacher's Agenda

If a teacher wants the right answer according to the workbook, then the child who consistently gets the right answer in the workbook will be seen as the gifted one.

A grade two teacher talked me to about Peter. She said that even though Peter was reading at a grade six level, he "wasn't all that smart." She asked me to take him out and look over his incorrect answers in the Mr. Muggs workbook. His opening comment about the books was, "Mr. Muggs. This is stupid." The reader had a story about a cat that lived in the farmer's barn. The cat, Blackie, had a litter of kittens and the story told how the cat caught mice and how she protected her kittens from the farm dog. Students were to complete sentences by selecting the approriate word from several choices.

Blackie was:
greedy
helpful
happy
mean

Peter had circled "mean." It was marked wrong.

"Why do you think Blackie was mean?" I asked the child.

"He scratched the farm dog. He caught the mice in his claws and bit their heads off," he answered, looking at me in amazement.

The answer was "helpful."

For other "incorrect" answers, Peter also had reasons which indicated that he looked at the question from more than one perspective, an ability usually associated with intelligence.

If a teacher values form, then original content is often ignored. If a teacher values speed, then 40% means 40% finished in the time allotted, not 40% mastery of the material. If a teacher values reproductive work, then creative responses will not be rewarded. If a teacher values only creative work, those who excell in analytical work or research and organization of material will find their efforts undervalued. If a teacher values speed and believes that being able to do things fast is a sign of intelligence, then a student who reflects upon things or questions rather than answers is at a disadvantage.

Sternberg tells us that many standardized tests reflect the notion that faster is better and that if students are reflective in their approach to the questions they will find other possible answers which, although correct, will not be scored as such. The child whose gift is his painstaking care and attention to detail is undervalued.

The child who says, "yes, but..." is a source of frustration. The grade two workbook exercise that asks the student to complete the sentences:

"We play in puddles in __________."

summer fall spring winter

asks children to deny their experience. It says, "Give me my answer, not yours." "Tell me the color of the sky," is a different question from "What color is the sky?" The first asks for one known answer (mine). The second can be answered from the respondent's experience.

For some teachers, giftedness is demonstrated by students who do the things which the teacher has deemed important. By doing those things quickly, correctly, and unquestioningly. Students exhibiting this behavior are rewarded by marks (and courtesies and favors). They receive achievement awards and through report cards, high recommendation to receiving teachers.

One grade five teacher refused to substitute work in the speller for more challenging work in the case of a student with a grade twelve score on a standardized language arts test. Her reasoning was that if he was so smart he ought to be able to do the speller work easily and then have time for other pursuits. The fact was that the boy was excruciatingly slow at the actual writing task. This fact, coupled with his extreme perfectionist tendency and his lack of motivation for a task so devoid of challenge and interest, meant that he failed to complete the speller work during class time and had to take it home at night where his parents hounded him to get it done. The net result was frustration for all concerned over a task that had questionable benefit for the boy to begin with.

Conferencing with this teacher, I pointed out that while she might be right that the boy should be able to do the work effortlessly, this was far from the case. When I asked her to consider giving the student an assignment more appropriate to his level of ability, the teacher opened her mark book and showed me the columns for marks on every spelling and vocabulary activity. She then explained to me what percentage of each mark would go to make up The Report Card Mark. Mrs. Birch was at a loss to imagine how she could fairly assign a grade to this student if he did not complete exactly the same assignments as other students.

The school traditionally gave letter grades on the final report card and Mrs. Birch was able to predict that James would achieve an A+ on the final report card some four months down the road. "Are you absolutely sure," I asked her. Of course she was. My goodness, the boy's skills in language arts were far above his grade level, she reminded me! And so here was a situation in which this teacher's evaluation scheme would dictate educational decisions for a student whose results were a foregone conclusion.

Teachers Extend the Gifts and Talents of Students

By opening up the possibilities

Teachers extend student strengths by being aware of their own strengths and preferences. By modelling in these areas of strength their enthusiasm for certain subjects, their curiosity about particular things, their facility in special areas. And they open up possibilities for children by introducing their students to abilities and preferences different from their own. Through guests and parents and biographies, they show children many kinds of excellence. Teachers enhance the possibilities of their students by empowering them through communication skills and computation skills, through critical thinking skills and research skills. Teachers enrich their students and activate their potential through exposing students to literature and art, to science and nature. And teachers, as they affirm children and see possibilities for those children, at the same time create and enhance such possibilities.

By accommodating differences

At times teachers ask me to meet with them to discuss classroom strategies for differentiating curriculum for many students. I once heard an educator say that the grade number tells you how many levels of student ability you have in a classroom. At the lower elementary level that may be no exaggeration! In a grade four class, I have found students who measured as high as grades ten and eleven on a standardized reading test. Now what these scores really mean is another matter, but certainly it is at least an indication of the variability in competence levels with regard to vocabulary, comprehension, and sophistication of knowledge when we have children scoring from grades two to ten on such a test. Gifted education has been criticized by some as simply one more addition to the teacher's already full plate. In fact, the able students of many types have always been present but the attention has focussed on those students who have difficulty learning. The gifted education movement has heightened awareness of the differences that exist among learners in a classroom. If this focus on individual differences now widens as we see it doing in our own approach to a sincere attempt to accommodate needs arising from those differences, we will be making progress toward more humanistic and more meaningful school experiences for more children.

Teachers respond to our county policy in different ways. Mrs. Sampson has set up a variety of learning centres in her classroom. After some activity and instruction that involves the entire class, students break apart to work at one of several centres. The writing centre has some compulsory activities and some choices for children. Students have a record sheet for keeping track of assignments done and checked by the teacher. Other students work first at the math centre or the science centre. Throughout the afternoon or over a longer time frame the students are responsible to have completed work at each centre. Some teachers have a central chart with moveable markers for children to indicate their progress. Children who complete all the required activities may have some special options including the playing of games or the creation of skits or presentations.

Mr. Larson achieved a somewhat similar result by teaching the class how to create a variety of products including a survey, a diorama, a crossword puzzle, a letter and a poem. On subsequent assignments, he then allowed students choices from among a variety of possible written, verbal and artistic responses.

Ms. Adams pretests at the beginning of the spelling unit and allows those children who get a hundred percent choices regarding the use of time while others are working on the unit. Students may create or choose a challenge list of words to work on. They can create a crossword puzzle for use by their classmates, made from the spelling words. Students may suggest to the teacher for approval, another project of their own choosing. This might be free reading or writing to a penpal.

Mr. Henson teaches junior high math. He introduces a new concept to all students. When the concept has been explained and students have tried using it, they have the option to challenge a set of questions. Those students who do so and succeed in demonstrating that they have understood the material go on to the enrichment project. Mr. Henson has prepared a research and problem-solving challenge based on the new concept, but going beyond the textbook treatment. A handful of students might, for example, go to the library where they find out about Zeno. What was his contribution to mathematical theory and how does it apply to this particular problem they have been given? Individually, or as a group, they go on to solve the problem.

Mr. Henson was asked by another math teacher how other students view these privileged few who take on the enrichment project. Mr. Henson pointed out that these students are not envied by others. They are seen to be doing more than they would have to do if they remained with the class. "The other kids think they're crazy!" This raises an important concern. Students should all be doing work that engages them, work at the appropriate level of difficulty. Where teachers allow some students to play while others work, difficulties arise.

Of further interest, Mr. Henson said that not all students wished to be a part of the research group. One girl who had qualified came back to him after a couple of days in the project and asked to be allowed to be part of the class. She said the project didn't really interest her and that she was afraid her marks would suffer if she missed what was going on in class. Another student, one who was not in the project, came to Mr. Henson after class and expressed interest in the problem the students had been given. "You know that stuff Ken and Derek are working on, well, I figured out the answer at home last night. That's neat! I wish I could do that stuff that they are doing." Mr. Henson acknowledged that the student had the right answer and said that he should show his mastery of the textbook material so that he could join the group.

Again we are reminded that the numbers (marks) just don't tell the whole story. One student achieves high marks because she has an interest in high marks and not in mathematics. Another student who doesn't have top marks has intrinsic interest in the material. I am reminded here of another incident in which students had been nominated to attend a writers' conference. The conference was being held in a school which was empty because of parent-teacher interviews. The teacher next to me pointed to a former student of his and said, "I don't think that young fellow was nominated to attend." The boy was a student of the school holding the parent-teacher interviews so it was a day off for him. He didn't have to be at school anywhere! The temperature that day was -35 C. I expressed the opinion that any kid who came out on such a day, when he didn't have to be in school at all, surely did belong at the writers' conference and for all we knew, he might be the only one who belonged there. That natural leaning toward something, that consuming interest deserves our attention as much or more than any score. It is an organic indicator that cannot be ignored if children's gifts and talents are to be nurtured. These are the passions Torrance would have us protect. When a child tells me that he writes stories at home, for amusement, I know something more important than I know from his score on a standardized test of writing.

By creating connections

A third fundamental strand of teacher participation in the development of gifts has to do with bridging and connecting. Teachers understand the importance of having the child bring his knowledge, her insights, to the learning process. Knowledge cannot be something "out there" and separate from the learner.

Teachers devise ways of honoring what the children know. Connections between pieces of information are made. The concept of "patterns" as we manipulate series in math connects with pattern in art and design with personal habit patterns and societal trends forming links and connections that allow students to own and extend such concepts. An example of such "bridging" was part of Mr. Walter's grade five social studies lesson. The class was beginning the study of explorers. Mr. Walters got the students to generate a list of words and phrases which had to do with "exploration" in its broad sense. He then initiated a discussion of what it meant to be an "explorer" in one's personal life.

> "What sort of decisions, attitudes," he asked his students, "would characterize one person as an explorer by comparison to others?"

The students gave him some of the following examples:

> If you tried eating at a Vietnamese restaurant instead of always at MacDonald's.
> If you sometimes bought fruit or vegetables that you had never eaten and learned how to prepare them.
> If you went biking or hiking somewhere you had never been.
> If you introduced yourself to a person from another school at the trackmeet.

If you tried skiing or something you had never done. Mr. Walters had the students talk about who they thought were modern day explorers. Their first responses were to suggest people who explored the Antarctic, the African jungles and the tundra regions. Someone mentioned outer space. One student asked if a person who studied the brain could be thought of as an explorer and then many examples followed of explorations in knowledge and thought, in sports and technology. Mr. Walters asked students to think about themselves as explorers and to rate themselves on a scale of 1 to 10 according to their tendency to be "explorers." A student raised the point that while you might be a real explorer in terms of athletics, you might not be much of an explorer in terms of, say, friendships. This led into a discussion of differences. Mr. Walters brought them back to the exploration issue by asking them what advantages and disadvantages were associated with exploration from the point of view of the explorer, from the point of view of society. Was it a good or bad thing to be an explorer? Was it something one ought to aspire to being?

The class members were very animated and involved in all these considerations. They were set up to get a great deal out of the unit which would follow in which every student was responsible to research and present information about a particular explorer to the class.

This attempt to bridge and connect is perhaps more easily managed in the elementary grades where one teacher typically teaches several subjects. However, if it is considered to be important, I believe there are ways it can be successfully addressed at all grade levels.

By cultivating in students a scholarly attitude

This last classification is not a separate set of strategies, but more an attitude and awareness of the teacher which, as it is shared and demonstrated, has the effect of drawing students out toward their potential long after the time when that teacher is actively involved with the student. Teachers who show students by their own involvement in study and reading that they are also learners promote the development of their student learners. Teachers who accept the challenge of questions for which they do not have answers, teachers who raise questions for which they do not have answers, teachers who have students pose questions and find questions so far unanswered by the scientific community, teachers who often discuss the things unknown in connection with an area of study as well as the things which are known, teachers who encourage students to question as much as they encourage them to answer - these teachers foster the development in their students of a scholarly attitude. This movement beyond the perimeters of current knowledge and ability, underlies the growth and blossoming of gifts.

In the process of preparing evaluation instruments to give us feedback on our emerging program, I developed an instrument (the classroom teacher questionnaire) in which I attempted to identify daily behaviors of teachers which would together describe the enrichment and differentiation alluded to in the above four strands. This instrument is a vehicle for teachers to look at their own classroom in terms of the opportunities available to students as they grow toward their potential. (See Appendix C for the Classroom Teacher Questionnaire.)

CHAPTER V

GIFTEDNESS VIEWED THROUGH THE NOTION OF DIFFERENCES

The desire to come to terms with giftedness has indeed spawned many "terms." A body of research, a variety of program models, and a flood of commercial materials have resulted from educational focus on giftedness.

Once the notion of giftedness was raised, immediately its reality was established. Many educators were attracted by definitions which circumscribed (with varying degrees of scope and clarity) the concept of giftedness. Based on these definitions school jurisdictions developed selection criteria and embraced specific program models. This particular study was begun with some scepticism regarding the fundamental concept of generic giftedness. As I researched the problem/question, I was struck by the continual intrusion of "diversity," of "difference."

Differing theories of giftedness were presented in the literature. These ranged from very narrow definitions based on percentages of the population demonstrating superior test-taking ability, to extremely broad definitions accounting for up to sixty percent of the population showing ability in one or more of a half dozen skills. A variety of gifts and talents from leadership to psychomotor skills have been referred to in theories of giftedness. Varying degrees of intensity of a given ability are demonstrated by individuals. Critical differences have been found among several children's expressions of a common gift. Diverse needs arise from a single ability displayed by different individuals. Teachers differ in the gifts they possess and in their perceptions of student gifts.

If we reflect on the profound uniqueness of individual students and of individual teachers, a resistance arises toward that which standardizes, as that which limits and reduces. The infinite richness of resources and possibilities represented by the differing gifts of students and teachers commands attention. Despite the complexity presented by this lens, and perhaps because of that complexity, this perspective deserves consideration.

Resisting a Definition of Giftedness

A definition is a powerful construct and needs to be regarded as such. Its formation has the effect of excising a concept from its contiguous field, of lifting it from context. In this operation, something is lost. The concept is reduced and changed. Even as the butterfly pinned no longer portrays the full essence of butterflies, the concept of giftedness defined is less than the whole notion. De Bono (1983) talks about how describing a visual construct by arbitrarily designating "parts" changes how we see the "whole." Also having described the structure in certain terms precludes (obscures) other possible perspectives. If, for example, we see a capital H as two upright bars and one horizontal bar, we will not see it as an open rectangle supported by two legs. Seeing its essential components as two vertical bars and one horizontal bar will influence our thinking about how it can best be constructed and used. Immediately, we will begin talking about bars and using the terms vertical and horizontal as if everything which could be seen or said about this figure could be expressed only through those terms. One can appreciate that as we apply this reasoning to the definition of a concept, the limitations and implications can be far reaching. Depending on how we define "gifted education" its nature and its form will be seen in certain terms and components.

A definition of giftedness, dependent as it is for meaning on other definitions (those of intelligence, creativity and talent, in particular), is especially apt to "reduce and change" the whole notion of giftedness. For this reason, we must attend to gifts as they manifest themselves in their beginning and immature forms, and we must imagine the possibility of gifts as we make educational decisons.

Thus to determine the meaning of giftedness through definition is to limit and exclude. It leads to limiting options and to excluding children who stand outside the arbitrary perimeter of our definition. To approach the issue of how to deal with giftedness in curriculum through definition is to warp and confine our potential for encouraging gifts and talents of children. It is to restrict that potential through the imperfection of our understanding, of our instruments, and of our vision.

Any definition of giftedness has its bias as well. That bias results in part from a selective survey of history that identifies those aspects of human effectiveness which have "advanced" civilization, in other words brought us to where we are. Some scientists believe that the kind of intelligence which has created the modern world will not be the kind of intelligence that will support the survival of humankind in the future. If there is any uncertainty about such things, surely the role of educators is to cultivate the many gifts and talents represented in the human spectrum.

And definitions created by educational theorists also have a functional bias. The definition of giftedness comes out in terms which suit it to the institution of school, in terms which allow educators to address it within the current framework of education: "If this is what we're doing, then giftedness ought to be what results from such activity." This way of reasoning is reminiscent of the circular nature of definitions of intelligence discussed by Sternberg (p.17) "Giftedness," being an abstreuse notion provides an uncertain perspective. Attending, instead, to individual gifts (manifest and potential) has real capacity to inform pedagogical practice.

Resisting the Notion of a Single Program

If a definition delimits the meaning of a concept, then policy creates its form. "If this is what it is, then this is what we'll do." If the county decides, for example, that the gifted are the top 3% of students based on IQ, then testing must be done and the 3% identified. If this is done by school, then many children who are excluded from the gifted in the suburbs will have higher IQ's than those selected in any inner city school or a rural school. Children who move from one school (or one district) to another will be gifted today but not tomorrow. Children separated by one IQ point will represent the gifted and the ungifted. Having a headache or a cold, taking the test when it's cool or hot outside, wanting to take the test or being indifferent will all be factors which determine the educational opportunities of children.

Some districts I visited required schools to provide a certain time block in the school week for gifted education. Every school timetable showed the designated provision, but the reality was that in every school something different was happening during that time. Depending on the administrator's interpretation and the staff's resources, programs offered included computer programming, French, music, creative problem solving and crafts.

As definitions are sanctioned by school boards, structures are put in place and funding is arranged to identify clientele and to create a program to serve them. These decisions are based on something "abstract and outside" the system in a sense. If a county can withstand the attraction of a clean-cut definition for "giftedness," and avoid the selection of candidates for "a program," it will be free instead to concentrate energy and resources on creating scaffolding for the emerging and potential gifts of all students.

A Shift in Focus

Apart from concerns about the "rightness" of a definition, about its exclusive or inclusive capacity, approaching giftedness through definition may not be pedagogically helpful. Perhaps creating the classification "gifted" and thinking of people in terms of that concept blurs the uniqueness of learners which should inform pedagogy. The wholeness of a child encompasses his or her distinct experience and future possibilities. Are we, as educators, able to attend to those differences which relate to the child's wholeness while we attend to what we construe to be the dictates of the concept of giftedness?

Can the label "gifted" affixed to the child actually violate that child's wholeness as the intrusion of something foreign has the power to corrupt or taint? Consider the situation of fourth grade students who have been identified as "gifted" and then given counselling in dealing with their giftedness. Can this be seen as injecting them with the virus and trying then to control the infection? Perhaps an orientation to difference among teachers and students holds more pedagogical promise since gifts and talents originate in these very differences, in the uniqueness of individuals.

A focus on differences shifts the perspective from the creation of a single program for a select clientele to the development of choices within the classroom and of services within the school-community to meet the diversity of student needs. Such programming also eliminates the labelling of children as "gifted" and celebrates instead the many strengths and interests of children.

Recognizing Differences Among Children

The anecdotes and interviews excerpted in Chapter III show how children, through words and actions, divulge important information about their needs to the perceptive educator. As we watch them and listen to them, children can teach us a great deal about their needs. They remind us, for instance, that they are whole and any encouragement we wish to provide in their development must take the whole child in view. We need reminding that they have a life outside school which has infinite significance in terms of their school experience. Knowing something about that life informs our judgment as educators. It increases our capacity for understanding, for compassion, for communion and for wisdom in our pedagogical relation to the child.

Acknowledging the wholeness of the child prevents us from seeing her as a "deficit condition," labelling him a "non-reader" or an "ungifted child." Acknowledging the child's wholeness means seeing her as a person who brings something to the learning. As someone whose experience is unique, and as such is a resource to others as well as a foundation for his own learning.

Children teach us that as we view school time as their time, as we come to know children, we sense that they possess a sort of deep agenda. Not one about which they can be very articulate in words, perhaps, but one which nevertheless fuels their lives and animates them. In terms of the development of gifts and talents, educators need to open themselves to all the possibilities which might crouch within their students. Attention to children's pastimes, hobbies, interests, fantasies, strengths and preferences can help us in our perception of students. We need to be careful as we forge ahead in an attempt to follow our own agendas, to "cover" the curriculum. We need to be careful not to "cover" the child's organic agenda with our own.

To make a difference

Acknowledging that differences exist among students is not enough to make a difference. As teachers, we say, "Oh, yes, I know that everyone is different." But we seldom behave as if we were convinced of it. We don't make decisions as if everyone were different. We don't evaluate and reward on that basis. We say, "The learner will..." as we state objectives for the entire class.

If differences of psychological type are innate as Jung (1923) believed them to be, if energy levels are physiologically determined, if background, motivation, ability to risk, intellectual capacity, interests and aptitudes are only some of the many significant dimensions of human difference, then as teachers we need to see with many eyes, to listen to unspoken messages and to speak with the numberless tongues of our students.

The notion of difference is infinite. We can never have it under wraps. The richness of its complexity draws us forward. As we search out own uniqueness, we will discover the myriad reflections of otherness.

As we strive to dissolve the barriers which separate us from our students, we will see more clearly their unique strengths and needs. As teachers we need to employ every practical effort to increase our awareness of differences. In an open and accepting way, we need to listen and watch, we need to ask and tell, to lead and follow, to show and share. Informally, through journals and other writing, through art and conversation, through drama and play, students reveal themselves. There are as well many instruments which can help to increase our awareness of the differences manifested by our students. Research and inventories on psychological preferences, learning styles, self-esteem, interests and aptitudes, have their place in helping teachers facilitate more appropriate learning experiences for children.

a) See Billy

Billy focusses most naturally on the inner world of thoughts and ideas. Billy's energy comes from solitary pursuits. Constant interaction depletes his resources. Billy needs time to himself. He wants to reflect before answering or acting. Billy's power of concentration is strong. He can read or work in the midst of noise and activity. This student does not volunteer his viewpoint during class discussion. He stops to share it with me after class. He likes to express himself in writing. Billy expects me to know how he feels even though he doesn't say much.

b) See Jamie

Jamie's natural focus is outward on the world around her. Jamie is talkative and expressive. I can always read her moods and feelings. She gets more energetic as she interacts with others. Long periods of seatwork drain her energy. Jamie thinks out loud. She needs discussion to clarify her ideas. Jamie needs opportunities for active engagement with others and with the material she is learning. But even low levels of activity distract her when she attempts to read or write in the classroom.

c) See Benjamin

Benjamin likes facts and stories that are true. He's a practical sort of child. He likes computation and he memorizes easily. Benjamin is attentive to detail and he reads all the directions. This student likes structure and sequence. He learns best when material is presented step by step. Benjamin comes to an understanding of the whole by learning the parts and building sequentially. Benjamin is most comfortable with the familiar and he enjoys routine. He wants me to do things according to the schedule. Benjamin moves steadily through a task from beginning to end and is a dependable solid student.

d) See Kirsten

Kirsten is attracted by the big picture. Once she has that she is able to attend to the parts or details. This student often starts in the middle of a task and moves in leaps and bounds. She likes fiction and has a great imagination. Kirsten is attracted to novelty and is bored by routine. She has lots of ideas but is short on patience with the detail required to see those ideas through to conclusion. This student is impatient with directions and is likely to attack a task through trial and error finding her own way of accomplishing it.

e) See Kendrik

Kendrik has an objective and analytical approach to things. He wants things to make sense in a logical framework. Kendrik is interested in cause and effect and consequences. This student wants to know how things work and why. It is important to Kendrik to be right and to be competent. He is interested in principles and in fairness.

f) See Alana

Alana has a subjective approach to decision making and her behavior is more people-oriented than Kendrik's. She cares chiefly about harmony and she wants to be liked. Alana is sensitive to my mood and to the feelings of her classmates. This student tends to immerse herself in the story or the discussion sometimes to the point that she has difficulty seeing the issues.

g) See Morgan

Morgan is an orderly person. She has a specific part of her binder designated for each aspect of the subject. This student hands assignments in on time and brings the right books to class. Morgan likes to organize projects and people. She moves toward closure in an efficient and purposeful manner. Morgan wants things "settled" and dealt with. She needs to know what is ahead and how things will unfold. This student is upset by changes in the schedule or in the way things are done. Morgan wants to shape and control as much of her day as she can.

h) See Jason

Jason is going sixty-two directions at once and his desk and books bear the evidence. His gym strip turns up only with the help of a search party. Jason's homework comes in days before or after it's due. This student is energetic in many pursuits and accomplishes a great deal when he is focussed. His interests are wide and varied. Jason is always game for something new. He welcomes surprise and seeks change. Even having a substitute teacher is an adventure. This student is flexible and open to experience.

When a teacher believes in the potential value of every difference among his students, he has all the possibilities for giftedness in his field of vision. When a teacher recognizes her own distinct strengths and preferences, she is able to prevent these from dominating the world of her classroom in a manner which diminishes or devalues the gifts of her students.

Needs arising from differences

Viewing learning in terms of difference places each child at the centre of his or her own learning. For gifts to unfold, teachers must be willing to see the learner as being in control of his or her own learning. The notion of "covering the curriculum" with or without the students is one which supposes that the teacher is in charge of the learning. As teachers see themselves more in the role of facilitators of learning and as resources to children, they will allow students more choices, more opportunities for autonomy within the classroom and within the curriculum. School should be a scaffold to support children as they climb toward their potential. Children start at different places. They move along differing pathways and at a variety of speeds. They have different destinations. Standardized teaching methods and materials deny this reality and serve few students well to the extent that the teacher controls, or believes he or she controls, the learning.

Perceptions may be illusory but they are real in their consequences. If teachers behave as if they are in control of student learning, then students will respond to that behavior. Students who believe that someone else is responsible for their learning will be passive and dependent. They will possess neither the attitudes nor the skills, nor the belief in themselves essential to survive the rigors of scholarship and the fulfillment of individual potential. Teachers must empower students by allowing them and helping them to cultivate the attitudes, competencies and confidences which will move them toward their potential as individuals.

Future needs have present implications

Teachers of the gifted believe they are teaching for thirty years from the present. What they teach and how they teach is aimed in some sense toward the Shane of the future, toward Shane, the father, and Shane, the citizen. Their teaching is aimed toward the midddle-aged Alana, toward Alana, the politician, and Kendrik, the artist.

This recognition of the wholeness of the child, in an outward sense which takes in the person he or she is outside of school, as well as in a forward sense which imagines who he or she may be in the future, this recognition is the beginning of an educator's pedagogical participation in the life of a child and in the future of that child's life.

Conclusion and Inconclusion

The investigation of "giftedness" has brought me to a greater recognition and a deeper appreciation of the differences among individuals. The manifestation of all individual gifts constitutes the bright spectrum of human achievement. I am convinced that a strong focus on difference will profoundly influence theoretical and practical pedagogy.

At the same time, the reality of accommodating student differences is a substantial challenge and many issues are involved in this pursuit. Educators may need to examine the attitudes and structures which inhibit flexibility and limit choices for teachers and students. Teacher training may need to assist educators more directly in developing awareness of student differences and strategies for coping with those differences.

As educators, we need to examine assumptions which underlie curricula and selection of teaching materials.[1] Do decisions in this area reflect an awareness of the diversity of student abilities, interests and backgrounds?

The graded system, standardized testing, diploma exams, and classroom evaluation practices, do these acknowledge and celebrate differences? The criteria for awards, scholarships and entrance to advanced programs are often based exclusively on one kind of academic talent. Young people who have the ability to become medical doctors and who display superior ability in some important aspect of clinical practice will be excluded because screening depends heavily on grades alone. Those with exceptional problem solving ability, those with superior powers of observation, those who possess strong compassion, all able students as well will be eliminated by students who receive higher grades on tests. A medical administrator told me that the committee went to three decimal places in choosing candidates for medicine based on academic achievement.

1. Teachers who are convicted of the importance of student differences face obstacles as they attempt to respond to them. I asked a staff during a workshop on accommodating student differences to indicate what their needs were in the face of this challenge. See Appendix D for their response.

Almost no aspect of the practice of medicine from surgery to radiology to general practice depends on the ability to take tests.

High school achievement is based in large part on a credit system which rewards students for time spent on a course. A student who speaks fluent French cannot receive credit for that ability by challenging the exams, but must spend a semester in the course to receive credit. A student who understands the entire content of the Physics 10 course or who can complete the course in six weeks must occupy a desk for a full semester to have his knowledge documented on a transcript. How does this system acknowledge differences in what students know and how they learn?

And societal expectations affect our ability to accommodate differences. The taxpayers have a say about personnel. Support people, music teachers, aides, counsellors and other specialists who are part of that important network which meets the diverse needs of students, these "non-essential" staff are often the first to be cut when ~~budgets~~ budget come under scrutiny.

The classroom teacher is shouldering an ever-increasing load. More and more family, church and health issues are being dealt with by the schools. Class sizes have not diminished. How realistic is it to speak of teachers having intimate knowledge of their many students in these circumstances? With the limited preparation time teachers have, how fair is it to suggest that they create centres and options and enrichment activities to accommodate students differences, to cope with reading levels ranging across several grades? These issues are real. And these factors are only some of the aspects of current schooling practice which inhibit attempts by educators to recognize and accommodate student differences.

Many educators are spending their efforts in attempts to study and address these issues. As a system, school changes almost imperceptibly, and yet in every generation since the beginning of the institution, there have been teachers who recognized and imagined and created possibilities for their students. These are the gifted teachers who have always been present in our ranks. And long before the "gifted education" movement, there were students whose gifts and talents emerged. Even as we ponder and investigate these matters, among today's young people, gifts and talents continue to emerge from the context of our imperfect understanding of these and other pedagogical issues.

REFERENCES

REFERENCES

ANDERSON, M. The relations of psi to creativity. Journal of Parapsychology, vol.26, pp.277-292, 1962.

BARRON, F. Creative person and creative process. New York: Holt, Rinehart & Winston, 1969.

BINET, A. & SIMON, T. Methodes nouvelles pour le diagnostic du niveau intellectuel des anormaux. L'Annee Pyschologique, vol.11, pp.245-336, 1905.

BINET, A. & SIMON, T. Le developpement de l'intelligence chez les enfants. L'Annee psychologique, 1908, vol.14, pp.1-90. (Reprinted in A. Binet and T. S. Simon, The development of intelligence in children. Baltimore: Williams & Wilkins, pp.182-273, 1916.)

BLOOM, B. S. (Ed.) Developing talent in young people. New York, Ballantine Books, 1985.

BLOOM, B. Stability and change in human characteristics. New York: John Wiley & Sons, 1964.

BLOOM, B. S. Taxonomy of educational objectives: the classification of educational goals, handbook I: cognitive domain, New York, N.Y.: Longmans, Green & Co., 1956.

BRIGGS-MYERS, I. Gifts differing, Palo Alto, CA. Consulting Psychologists Press, 1980.

BRUNER, J. S. The process of education. Cambridge, Mass. Harvard University Press, 1960.

BURT, C. The facts of the mind. London: University of London Press, 1940.

CLARK, B. Growing up gifted, 2nd edition. Columbus, Ohio: Charles E. Merrill Publishing Company, 1983.

CATTELL, J. M. Mental tests and measurements. Mind, vol.15, pp.373-380, 1890.

DE BONO, E. The use of lateral thinking. Markham, Ontario: Penguin Books Canada, pp.30-67, 1983.

DENNIS, W. Causes of retardation among institutional children: . Journal of Genetic Psychology, vol.96, pp.47-59, 1960.

DENNIS, W. & NAJARIAN, P. Infant development under environmental handicap. Psychology Monograph, 71 (7, Whole No.436), pp.1-13, 1957.

FERGUSON, M. The brain revolution. New York: Taplinger, 1973.

FROMM, E. The creative attitude. In H. H. Anderson, Creativity and its cultivation. New York: Harper & Row, 1959.

GALTON, F. Inquiry into human faculty and its development. London: Macmillan, 1883.

GESELL, A., HALVERSON, H., THOMPSON, H., ILG, F., CASTNER, B., AMES, L., & AMATRUDA, C. The first five years of life: a guide to the study of the preschool child. New York: Harper, 1940.

GOUGH, H. G. The adjective check list as a personality assessment research technique. Psychological Reports, vol. 6, pp.107-122, 1960.

GOUGH, H. G. & HEILBRUN, A. B. Jr. Adjective check list manual. Palo Alto, CA: Consulting Psychologists Press, 1965.

GOWAN, J. C. Development of the creative individual. San Diego, CA.: Robert R. Knapp, 1972.

GUBBINS, E. J. Revolving door identification model: characteristics of talent pool students. Unpublished doctoral dissertation, University of Connecticut, 1982.

GUILFORD, J. P. The nature of human intelligence. New York: McGraw-Hill, 1967.

GUILFORD, J. P. The structure of intellect. Psychological Bulletin, vol.53, pp.267-293, 1956.

GUILFORD, J. P. Three faces of intellect. American Psychology, vol.14, pp.469-479, 1959.

HARRINGTON, D. Creativity, analgocial thinking, and muscular metaphors. Journal of Mental Imagery, vol.4(2), pp.13-23, 1980.

HOLZINGER, K. J. (1938) Relationships between three multiple orthogonal factors and four bifactors. Journal of Educational Psychology, vol.29, pp.513-519, 1938.

Intelligence and its measurement: A symposium. Journal of Educational Psychology, vol.12, pp.123-147, 195-216, 271-275, 1921.

JUNG, C. (Ed.). Man and his symbols. New York: Dell, 1964.

JUNG, C. G. Psychological types. New York: Harcourt, Brace, 1923.

KAGAN, J. & MOSS, H. Birth to maturity: a study in psychological development. New York: John Wiley & Sons, 1962.

KRIPPNER, S. Consciousness and the creative process. The Gifted Child Quarterly, vol.12(3), pp.141-157, 1968.

KRISHNAMURTI, J. Think on these things. New York: Harper & Row, 1964.

MacKINNON, D. W. Creativity and images of the self. In White, R. W. (ed.), The study of lives, NYC: Atherton Press, pp. 251-278, 1963.

MacKINNON, D. In search of human effectiveness. Buffalo, NY; The Creative Education Foundation, Inc., 1978.

MacKINNON, D. Personality and the realization of creative potential. American Psychologist, vol.20, pp.273-281, 1965.

MARLAND, S. P. Education of the gifted and talented: report to the congress of the United States by the U. S. Commissioner of Education and backgroup papers submitted to the U.S. Office of Education. Washington, DC: U.S. Government Printing Office, 1972.

MASLOW, A. Creativity in self-actualizing people. In H. Anderson (ed.), Creativity and its cultivation. New York: Harper & Row, 1959.

MAY, R. The nature of creativity. In H. Anderson (Ed.), Creativity and its cultivation. New York: Harper & Row, 1959.

NEISSER, U. The concept of intelligence. Intelligence, vol.3, pp.217-227, 1979.

NICHOLLS, J. C. Creativity in the person who will never produce anything original and useful: The concept of creativity as a normally distributed trait. American Psychologist, vol.27, pp.717-727, 1972.

PARNES, S. Creative behavior guidebook. New York: Charles Scribner's Sons, 1967.

PIAGET, J. (The origins of intelligence in children) (M. Cook, trans.). New York: International Universities, 1952. (Originally published, 1936.)

PRESCOTT, J. Alienation of affection. Psychology Today, December vol.13 (7), p.124, 1979.

RENZULLI, J. S. (1978). What makes giftedness? Re-examining a definition. Phi Delta Kappan, vol.60, pp.180-184, 261, 1978.

RENZULLI, J. S., & REIS, S. M. The schoolwide enrichment model. Mansfield Center, Connecticut, Creative Learning Press, Inc.; 1985.

RESTAK, K. The brain: the last frontier. New York: Doubleday, 1979.

RHODES, M. An analysis of creativity. Phi Delta Kappan, vol.42, pp.305-310, 1961.

ROGERS, C. Toward a theory of creativity. In H. H. Anderson (ed.), Creativity and its cultivation. New York: Harper & Row, 1959.

SAGAN, C. The dragons of eden. New York: Random House, 1977.

SHOSTROM, E. An inventory for the measurement of self-actualization. Educational and Psychological Measurement, vol.24, pp.207-218, 1964.

SIMONOV, P. Emotions and creativity. Psychology Today, vol.4(3), pp.51-55, 77, 1970.

SKEELS, H., UPDEGRAFF, R., WELLMAN, B. & WILLIAMS, H. A study of environmental stimulation: An orphanage preschool project. University of Iowa Studies in Child Welfare, vol.15(4), pp.28, 264, 1938.

SONTAG, L. BAKER, C., & NELSON, V. Mental growth and personality development: A longitudinal study. Monograph of Sociological Research in Child Development, vol.23 (2, Whole No.68), 1958.

SPEARMAN, C. The abilities of man. New York: Macmillan, 1927.

STERNBERG, R. J. Beyond IQ. New York: Cambridge University Press; 1985.

STERNBERG, R. J. The evolution of theories of intelligence. Intelligence, vol.5, pp.209-229, 1981.

STERNBERG, R. J. Intelligence and nonentrenchment. Journal of Educational Psychology, vol.73, pp.1-16, (1981).

STERNBERG, R. J. Lies we live by: misapplication of tests in identifying the gifted. Gifted Child Quarterly, vol. 26, pp.4, 157-161, 1982.

STERNBERG, R. J. & POWELL, J. S. Theories of intelligence. In R. J. Sternberg (ed.), Handbook of human intelligence. Cambridge: Cambridge University Press, 1982.

TABA, H. Teaching strategies and cognitive functioning in elementary school children. (U.S.O.E. Cooperative Research Project No.2404), San Francisco, San Francisco State College, 1966.

TAYLOR, C. W. Identifying the creative individual. In E.P. Torrance (Ed.), Creativity: Proceedings of the second Minnesota conference on gifted children. Minneapolis: Centre for Continuation Study, 1959.

TAYLOR, C. W. & WILLIAMS, F. E. Instructional media and creativity. New York: John Wiley & Sons, 1966.

TERMAN, L. M. Intelligence and its measurement. Journal of Educational Psychology, vol.12, pp.124-127, 1921.

TERMAN, L. M. et al. Genetic studies of genuis: mental and physical traits of a thousand gifted children. Stanford: Stanford University Press, 1926.

THORNDIKE, E. L. Intelligence and measurement. Journal of Educational Psychology, vol.12, pp.124-127, 1921.

TEYLER, T. An introduction to the neurosciences. In M. Wittrock (Ed.), The human brain. Englewood Cliffs, N.J.: Prentice-Hall, 1977.

THORNDIKE, R. L. The measurement of creativity. Teachers College Record, vol.64, pp.422-424, 1963.

THURSTONE, L. L. Primary mental abilities. Chicago: University of Chicago Press, 1938.

TORRANCE, E. P. Encouraging creativity in the classroom. Dubuque, IA: Brown, 1970.

TORRANCE, E. P. Guiding creative talent. Englewood Cliffs, N.J.: Prentice-Hall, 1962.

TORRANCE, E. P. Creative positives of disadvantaged children and youth. The Gifted Child Quarterly, vol.13(2), pp.71-81, 1969.

TORRANCE, E. P. The search for Satori and creativity. Buffalo, N.Y. Creative Education Foundation, 1979.

TREFFINGER, D. Blending gifted education with the total school program, 2nd. ed. East Aurora, N.Y.: D.O.K. Publishers, 1986.

TROWBRIDGE, A. Evolution of triune brain consciousness. Man-Environment Systems, vol.8(3), pp.105-112, 1978.

VERNON, P. E. The structure of human abilities. London: Methuen, 1971.

VYGOTSKY, L. Thought and language (E. Hanfmann & G. Vakar, Eds. and trans.). New York: Wiley, 1962.

WELLMAN, B. Iowa studies on the effects of schooling. Yearbook of the National Society on Studies in Education, vol.39, pp.377-399, 1940.

WILLIAMS, F. E. Classroom ideas for encouraging thinking and feeling. Buffalo, N.Y., D.O.K. Publishers, 1970.

WILLIAMS, F. (ed.). Creativity at home and in school. St. Paul, Minn.: Macalester Creativity Project, 1968.

WITTY, P.A. Who are the gifted? In N.B. Henry (Ed.), The Fifty-Seventh Yearbook of the National Society for the Study of Education, Part II, Education of the Gifted. Chicago: University of Chicago Press, 1958.

YAMAMOTO, K. Creative thinking: Some thoughts on research. Exceptional Children, vol.30, pp.403-410, 1964.

APPENDICES

APPENDIX A

STRATEGIES GENERATED FOR ACCOMMODATING STUDENT DIFFERENCES: SPELLING

STRATEGIES FOR RESPONDING TO DIFFERENCES AMONG STUDENT SPELLERS

1. Pre-test children to ensure that students are working at correct level of difficulty.

2. Allow students who know the words some lateral enrichment:
   - searching out information about origins of words
   - creating strategies for spelling particular words which give other students difficulty
   - assisting other spellers through peer-coaching
   - creating crossword puzzles or word searches with spelling words
   - making posters of spelling words along with tips for remembering them
   - coaching or testing spellers in another grade

3. Allow students opportunity for acceleration:
   - going ahead in the book to more difficult word lists
   - creating their own word list to be tested on
   - create a contract with the student to challenge him/her

4. Allow students to create personal spelling lists from their own journals and compositions.

5. Allow students to experience strategies such as chants, songs, tactile spelling, and other ways of remembering words.

6. Create contests and opportunities for students to achieve and celebrate every degree of success.

7. Allow students to do some writing activity (e.g. letter-writing contract) in substitution for work from a speller.

8. Allow students to create their own goals.

9. Allow students choices of public or private progress charts.

10. Allow students to challenge the teacher on difficult words.

11. Do a spelling diagnostic investigation with students to help pinpoint the problem sounds/areas.

12. Discuss ways in which we can become better spellers in a general sense:
    - predict and check spelling of new words
    - look at signs
    - decide what is unphonetic or strange about the way a word is spelled.

13. Spell words for kids on the board, aloud or on their papers when they want to know them.

14. Point out words that have unconventional spelling when you encounter them with your students.

15. Dispell student fears about spelling. Give them strategies for finding words in the dictionary. Show them how a spell-check works on a word-processor.

16. Play games and have fun with spelling:
    - give them nonsense words and have them justify their various spellings on the basis of other English words
    - have them each act out being a certain spelling word telling what they like and dislike about themselves
    - have them describe themselves as that word.

17. Test kids in variety of ways:
    - verbally
    - written
    - select the correct spelling from choices
    - let them spell as a team/ as a pair
    - give them half of each word and have them complete
    - let them choose which 10 out of 20 words they will be tested on
    - let them take the test over as often as they want, to improve their score

18. Let students teach the spelling unit presenting words and strategies to classmates.

19. Let students generate spelling activities instead of doing the ones in the book.

20. Talk to kids about the origins and reasons behind unconvential or non-phonetic words. Look at a few words from another language to see how phonetic systems differ.

APPENDIX B:

EXAMPLES OF STUDENT PROFILES

STUDENT PROFILE - BRANDON, grade 3

Brandon told me that his favorite subject is math. When I asked him why he liked math, he said, "you get to learn stuff you didn't know. I like trying to do new stuff." When I talked to him about doing math at a level where he already has mastery of the concept, he said, "I enjoy doing the stuff I know, too." In his spare time, Brandon says that he would like to do more math, maybe math based on games or puzzles of some kind.

We talked about reading, for which Brandon expressed a lot of enthusiasm. He said, "I like stories better than facts. I like mystery. I like true stories, adventure. I like to read about people. I like reading all kinds of books." I asked Brandon if he liked to read with a parent, to share a book with a parent and he said, "I read by myself." I tried to interest him in the idea of sharing a chapter book with a parent, but I had the sense that he thought such a sharing of books with a parent was only for those who could not read themselves. Brandon said he enjoys science because, "you can find out about new things." He said he was interested in people who discovered things, and he was interested in simple experiments that you could do at home such as those shown in Owl Magazine.

When I asked Brandon if he liked writing, he said, after a pause, "Yeah, I guess." He clarified for me that he likes printing and not handwriting. When we talked about the type of writing that he enjoys most, he said, "I like writing from my imagination better than writing reports." When I asked him what he might write about, he said, "I'd be writing about myself and my friends." We talked about art and Brandon said that he was good at art, that he especially liked drawing and coloring. Some of the subjects of his art are cars and helicopters, mountains and people.

I asked Brandon some of the things that he liked to do at home. He said, "I like having time alone." He said, "I read and play video games. I watch TV. Sometimes I play a game with Dad, Battleships or Monopoly with Mom and Dad."

I talked to him about the things that he might see as interesting when he is an adult, things that he might like to do or see or be one day. He said, "I'd like to keep learning things. I'd like to have kids and teach them things. I'd like to find out about things."

Some strategies we might consider:

- book time for Brandon with the school librarian for the purpose of creating a reading list based on his interests and his need to be challenged.

Brandon continued

- consider having one of Brandon's parents work through a chapter book with him.
- continue providing Brandon with math enrichment activities which he can do in his spare time.
- continue providing Brandon with opportunities to create stories, to illustrate them and share them with authentic audiences.
- provide Brandon with some opportunity to do some informal browsing with books, without specific research assignments, such things as auto trivia, kid's almanacs, amazing facts about birds, World Magazines, Owl Magazines, books with short articles.
- provide Brandon with an oportunity to work at some of the science experiments books such as Wonderstruck and Magic Mud and consider having him report to the class on these.
- consider providing an opportunity for Brandon to create a challenge spelling list or to compact the spelling work if he has mastered the concepts and the words since this is one area he cited as being repetitious and uninteresting to him.
- consider allowing Brandon to create an alphabet book based on himself and his interests, of doing this in place of perhaps some other language arts activity.
- continue to monitor Brandon's attitude and progress in terms of the appropriateness of the curriculum to his needs.

STUDENT PROFILE - MATTHEW grade 4

When I asked Matthew what his favorite subject was, he said, "I don't really have a favorite because I don't like school." I said if he had to pick a subject that he liked just a little bit better than other subjects, what would it be and his reply was, "French." I said, "You like French," and he said, "I like the teacher. She's nice." When I pushed him to talk about other activities that he enjoyed, Matthew said he enjoyed art because "you can design things any way you like." Matthew says he gets high marks in math. He said, "I'm lucky I get high marks in math." He said that he especially enjoys things which are puzzles or codes, that he likes figuring out the answer to problems, but he hates writing the sentences. Matthew says that he likes reading better at home than in school. He is especially interested in knights and castles. He says that he is reading the C.S. Lewis books right now and is enjoying them. He thought he would also enjoy legends and myths.

About writing, Matthew was strongly negative. He said, "I hate handwriting. I'm messy. I'm not very good at it." Matthew says that he is left-handed with writing, but does many other things with his right hand. When I talked to him about the actual process of composing material and organizing ideas, he said that he liked doing that and that when he could write using the computer, he found it more manageable. He says he likes factual writing and he says he likes writing stories if he can write anything he wants. As far as the computer work at school on Logo, he wasn't very keen about it.

Matthew says that he is not very interested in science at school, but would like to read about experiments and inventions. He said he likes "gross things." He said he likes frogs, scorpions and dragonflies. He is interested in eagles and hawks.

I talked to him about a variety of methods of reporting, and he said that if he had to do a report, he would be more interested in some kind of novel techniques rather than a straightforward report format. He said he likes to learn by drawing and by doing.

Matthew says he finds music very boring, that, "you are playing the same things for a long time." He says he doesn't like playing the piano but likes listening to music. He says he hopes he doesn't have to take band or piano when he is older.

Matthew continued

One of the things in the school day that Matthew finds uninteresting and unchallenging is reading. He says, "you have to do all these comprehension questions." When I asked him more about it, I got the impression that the difficulty wasn't with answering the questions, but with writing out the answers.

The things he likes best to do at home are drawing and reading. The area that he is most interested in is "knights and stuff." He says he likes to watch TV at home and play games on the computer. He also likes to play GI's.

When I asked what he would like to be as an adult, he said that he would like to be a doctor because, "I kind of like gross things." He also talked about the fact that he would earn a lot of money as a doctor, and if not as a doctor, perhaps as a lawyer, then he would be able to buy an expensive stock car and a sailboat and a nice house.

Some strategies and investigations we might consider:

- book time for Matthew to spend with the school librarian for the purpose of creating a reading list based on his interests and his need to be challenged. His interest in medieval times, legends and knights could be encouraged. He might also be interested in mythology, some books on science experiments that one can do at home or various inventions. Some science fiction might also interest him and amazing facts about animals.

- consider creating an independent project for Matthew on medieval times, legends, knights and castles. This could involve some literature, some history and technical information about armour and military strategies. Products could include artwork as well as written work.

- consider ways in which Matthew and other students with similar needs could work on skills and concepts through manipulation of physical objects and active learning by discovery. Matthew seems to have a preference for looking at the big picture and a need for novelty. Whenever possible, consider giving him a "producer" rather than a "consumer" task.

Matthew continued

- consider compacting math or testing Matthew out in math and allowing him to work ahead or work on math enrichment activities when he has demonstrated competency.

- consider finding ways to short circuit long writing tasks for Matthew if there are other appropriate ways for him to show knowledge.

- consider providing Matthew with an opportunity to learn word processing and to use it when possible and appropriate for completion of written work.

- consider strategies for negotiating performance and production from Matthew in exchange for privileges with regard to working on a special interest project.

- allow Matthew when possible, to have responsibility in learning decisions and evaluations. He needs to have ownership for his learning and needs to see clearly that he can control the consequences to a great extent through his own motivation and effort.

- consider allowing Matthew to work on the computer program FROG, under the mentorship of an older student. This would tie in with Matthew's interest in dissection and might motivate him to complete work more quickly and satisfactorily.

STUDENT PROFILE - TRICIA grade 2

Tricia is a tiny student and her poise and confidence are more impressive because she seems even younger than she is as far as her size is concerned. Tricia seemed very comfortable in the interview and spoke freely and articulately of her interests. She told me that her favorite subject is math, that she likes questions Mr. Scott gives her because they are easy. Tricia already knows a number of the times tables by memory and told me that she would like to do harder math. She would also like to do any kind of math or number puzzles or problem solving.

Tricia said she also enjoys art. She likes doodling and making little crafts. She would like to look at the how-to-draw books. She also enjoys coloring. Tricia likes reading. She is enjoying the book that is being read in the class right now called Freckle Juice. She likes joke books, riddle books, funny stories and she likes fact books about animals. Given a choice of product, she prefers to report with written work and pictures. When I talked to her about doing some informal foraging or research in the library, she said, "Yes, I would. I would think that would be very nice." She talked considerably about her interest in animals and said when she grows up she might want to be a veterinarian or a teacher. Then she said, "No, on second thought I don't want to be a teacher. You have to go through too much school."

She talked about her sister, with whom she seems to enjoy spending time. I was amused by one statement where she said, "When I was young, my sister would share her jelly beans with me." This, from someone who is no bigger than a minute and looks like she couldn't possibly have been younger. Tricia takes gymnastics which she enjoys very much and, actually, I had an opportunity to watch her at gymnastics the other day and she is really very good for her age. Tricia goes to choir at shool and enjoys that veyr much.

Tricia likes writing. She enjoys writing stories. She has pen pals and said she would enjoy writing letters as a project. Tricia enjoys doing any kind of word games, word searches and puzzles and would like to know how to make them. I was amazed overall by Tricia's poise and level of articulation. When the interview was over, I stood up and thanked her. She went to go out the door, then she stopped, turned to me and said, "Well, thank you for having me come down." This is a youngster who obviously also has great deal of social awareness and ability.

Tricia continued

Some strategies and investigations we might consider:

- provide Tricia with a reading list to extend the scope and challenge of her reading. It might include some how-to-draw books as she expressed interest in those. Possibly animal fact books, amazing facts about animals, animal encyclopedias like Nature's Children. Maybe stories with animals as characters such as Aesop's Fables or stories about youngsters who have a horse or a dog.
- consider allowing Tricia to undertake a letter-writing project. She especially expressed interest in writing to authors or in writing to a gymnast. She talked about writing to the author of the Berenstain Bears, but told me that he was dead. (Alice Young's students at Graminia got a letter from the author this fall.)
- consider allowing Tricia to undertake some independent study project, either under supervision of a volunteer or parent or teacher, or perhaps with a partner from a higher grade level. She might be interested in doing one of the studies from Nature's Children complete with some artwork or creating a crossword puzzle or alphabet book about the animals, etc.
- consider pre-testing Tricia in math and either allow her to do more challenging math or some lateral enrichment or to work as a peer helper in math.
- consider allowing Tricia to be involved in a novel study either with a group of students or with a partner from another grade level.
- provide Tricia with opportunities to do some informal foraging in books in the library.
- continue to provide Tricia with opportunities to write her own stories and illustrate those and share them with an authentic audience.

STUDENT PROFILE - KRIS grade 6

I know this student as he was in my grade 4 class at Queen Street 2 years ago. Even at that time, his reading level on the Gaetz McGinnity Reading Test registered at grade 11 level. Kris is also a very divergent thinker and good at critical thinking in a logical and analytical sense. He has an extensive vocabulary. Kris says about math, "I hate math. I'm good at it, it's just boring."

Kris likes social studies and likes to learn about history. He is reading the Values biography series. He is interested in fantasy, historical fiction, science fiction, biographies and magazines, especially wrestling. He likes to listen and view as well as read. Kris is interested in science "a little bit," he says. His particular interest is in inventions and inventors. He is interested in how things work and likes to build space things with Lego. He would also like to learn about the parts of a computer or how a computer works. Kris is interested in animals, and especially fish. They have a large aquarium at home. He is also very interested in ancient history, ancient societies such as Egypt. Kris would like to learn different languages, especially Dutch and German. He would enjoy an opportunity to draw on computers. He likes to draw freehand, especially cars.

Kris's writing is slow and untidy unless he takes a great deal of time for it. This may be the reason for his lack of output in terms of written work and his reluctance to undertake written tasks. He has lots of great ideas for writing, but is impatient and frustrated trying to get those down. Because he has not completed a great deal of wrriten work, he probably needs some development in organizational skills with regard to writing.

Overall, Kris's school experience has not been strongly positive and he suffers from somewhat low self-esteem.

Some strategies and investigations we might consider:

- test Kris out on math units to compact repetitious material.

- provide Kris an opportunity to work on the computer with graphics and drawing.

- provide Kris an opporutnity to learn word processing, so that he might do his written work on the computer.

Kris continued

- give Kris an opportunity to look at Building Toothpick Bridges and see if this is something he might be interested in pursuing.

- provide Kris with a reading list based on his interests that is challenging for him. I suggest some realistic fiction such as Hatchet, The Grizzly, Incident at Hawk's Hill, Sounder, I am David, The Cay.

- provide an opportunity for Kris to do biographical studies of scientists, inventors or other famous people, possibly based on the Values series.

- allow Kris to show his knowledge through artwork, diagrams, charts or cartoons.

- allow Kris an opportunity to create materials which other student might use such as word or number puzzles.

- allow Kris to work with another student or alone on an independent study project, possibly on science experiments or inventions.

APPENDIX C:

THE CLASSROOM TEACHER QUESTIONNAIRE

CLASSROOM TEACHER QUESTIONNAIRE

I DO THIS:
1 - DAILY
2 - WEEKLY
3 - AT LEAST ONCE IN A UNIT
4 - AT LEAST ONCE DURING THE SCHOOL YEAR
5 - SO FAR NOT AT ALL

1. I provide a variety of materials designed to encourage curiosity, investigation, problem-solving, wider reading.
2. I provide exposure, for students, to new interest areas through field trips, guest speakers and films.
3. I encourage career awareness and exploration for my students.
4. I provide opportunity for students to pursue a particular interest through independent or spare-time projects.
5. I bridge from curricular content to other content domains and to students' personal experience with particular concepts/content.
6. I invite parents/community members to be resources to my students.
7. I encourage parents to share information and expectations with me regarding their child's learning experience.
8. I use community resources to expand learning experiences for my students.
9. I pose complex/challenging questions.
10. I pose questions to which there are many possible answers.
11. I pose questions to which I do not know the answer.

Classroom Teacher Questionnaire continued

12. I pose questions which have not yet been answered.		
13. I pose questions which encourage children to classify, to elaborate, to analyze, to evaluate and to generate unique ideas.		
14. I provide opportunity for students to gain skills essential in self-directed learning.		
15. I provide opportunity for students to learn how to do research.		
16. I teach my students strategies and process.		
17. I provide students with choices regarding the amount of work/practice they do.		
18. I provide students with choices regarding the content studied.		
19. I provide students with choices regarding the product/assignment they do.		
20. I provide students with choices regarding use of their spare time.		
21. I provide students with the choice of producing or consuming information (self-generated response vs. worksheet response).		
22. I pre-test my students on new content to determine their levels of mastery.		
23. I create open-ended assignments which allow for differences in length, complexity, format.		
24. I provide opportunity for students to work cooperatively to accomplish a group task/project.		

Classroom Teacher Questionnaire continued

25. I provide opportunity for students to work with those of like ability.		
26. I provide opportunity for students to work with those who share a particular interest.		
27. I provide opportunity for students to move through material at their own pace.		
28. I provide opportunity for students to work at their various ability levels.		
29. I provide opportunity for students to design their own tests and assignments.		
30. I allow students to use the mode of expression (oral, written, artistic, digramic, etc.) in which they are most competent to express their knowledge..		
31. I provide oportunity for students to "bring the knowledge" to me and to the class. (What can you find out/Do you know about...)		
32. I use student presentation, bulletin boards, charts, announcements, to communicate and affirm this input from students.		
33. I help students to set personal learning objectives.		
34. I provide authentic audience for the writings/projects of my students.		
35. I provide students opportunity for self-evaluation.		

APPENDIX D:

TEACHER NEEDS IN SUPPORT OF ACCOMMODATION OF STUDENT DIFFERENCES

TEACHER NEEDS

GRADES 1 AND 2

1. Time to meet with the grade 6 teacher to set up cross-graded activities and to explore possibilities.

2. *Time to meet at grade level (or division level) to create some shared materials.

3. *Translation services to duplicate some of the English enrichment materials.

4. Opportunities for French Immersion grade twos to have more exposure to the English language.

5. *Time to organize 4 - 6 students to work on enrichment or cross-graded projects.

6. *Time to view the Resource Centre materials.

7. More inservices like the one we just had.

8. Lists of people, resources, available in the County to come into classrooms to speak on various topics (French contacts in these areas as well).

9. Opportunity to make a school yearbook.

10. *A list of materials available in each classroom to facilitate sharing.

11. *More French materials.

12. Young Authors (for a limited time, 4-6 weeks).

13. *Time to meet with other teachers to do planning, pairing, etc.

14. Opportunity to visit other classrooms in/out of County.

15. *Time to plan and create resource areas in the classroom/school.

16. Opportunity to extend theme with reading - Grade 1 phonics, vocabulary.

17. Opportunity to showcase student writing in a school newspaper.

18. Opportunity to work on curriculum committees preparing material on specific themes.

19. Resources and direction for handling split class curriculum.

20. Smaller class sizes, particularly in grade one.

*denotes more than one person requested this

TEACHER NEEDS

GRADE 3 AND 4

1. *Opportunity to set up centres developed by staff for certain grade or division levels - especially science centres and math activities.

2. Opportunity for cross-graded computer projects.

3. *Opportunity to set up independent projects and contracts to challenge students.

4. *Time to make materials, bingo cards, Roman numerals, game pieces, lists of books on themes, etc.

5. Time and help with creating a spelling centre or activities to meet needs of kids spelling at levels from grade 1 to grade 5.

6. Time and help to set up a very "hands on" science program.

7. *Opportunity for cross-graded and peer tutoring in math.

8. Opportunity to set up projects with community members such as senior citizens, Japanese interns, etc.

9. Resources to extend basic math skills.

10. Writing ideas for gifted writers.

11. Project ideas for independent use.

12. A radio station project to improve French oral skills.

13. A classroom newspaper using computer/printer.

14. Opportunity to set up a resource centre in the school for French Immersion.

15. Opportunity to improve and promote good relations between English and French students, e.g. letter writing, field trips.

16. Information on individualized spelling programs.

17. *Help with laminating, coloring, making centres.

18. *Time to spend at the Resource Centre.

19. *Math games/activities.

20. Student contracts for individual projects.

21. Contracts such as could be used for individual projects to set timelines, etc.

22. *Time to spend with Mary to generate ideas that deal with concerns.

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* denotes more than one person advocated this

TEACHER NEEDS

GRADE 5 AND 6

1. Time to consult with Mary regarding individual students.
2. Access to information, Resource Centre materials, Mary's help.
3. More inservices like this to focus on particular aspects, share experiences, build materials.
4. Time to work on resources needed, especially French materials.
5. Time to meet with other teachers to plan school-wide or inter-class enrichment services.
6. More French materials.
7. Vehicle for swapping and sharing what we have - lists, bulletin board, etc.
8. Librarian time for gathering, collecting, organizing, creating materials.
9. Contracts to give guidance to spelling.
10. Individualized projects in science, writing.
11. Library support for students involved in independent projects.
12. Time for teachers to meet with librarian to share upcoming themes, units, programs so that library can support and extend classroom focus.
13. Supplies - paper, cardboard, laminating film, so students can create books, games, posters, etc.
14. A resource person from outside the system.
15. A creative person to help produce materials that I would like to have available for my students.
16. An opportunity to meet with teachers from other schools.
17. Opportunity to establish French-English buddy system.
18. Services of a specialist in art to work with students on things like blending.
19. Postage